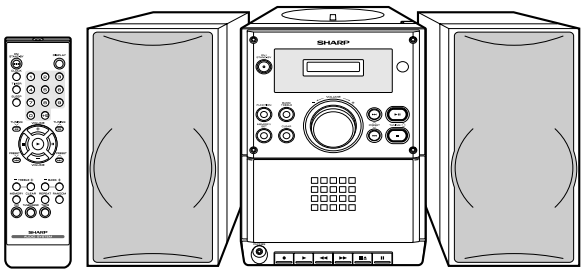
SHARP SERVICE MANUAL

No. SY1502XLMP10H



MICRO COMPONENT SYSTEM

MODEL XL-MP10H

XL-MP10H Micro Component System consisting of XL-MP10H (main unit) and CP-S10H (speaker system).

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

COMPACT disc DIGITAL AUDIO

CD-R/RW Playable

SAVING ENERGY STAND-BY POWER CONSUMPTION 0.9W

ENERGY (Europe Only)

MP3

CONTENTS

PRECAUTIONS FOR USING LEAD-FREE SOLDER

CHAPTER 1. GENERAL DESCRIPTION
[1] SAFETY PRECAUTION FOR SERVICE MANUAL 1-1
[2] SPECIFICATIONS 1-2
[3] NAMES OF PARTS 1-3

CHAPTER 2. ADJUSTMENTS
[1] ADJUSTMENT 2-1
[2] TEST MODE 2-2
[3] When the CD does not function 2-3

CHAPTER 3. MECHANICAL DESCRIPTION
[1] DISASSEMBLY 3-1

CHAPTER 4. DIAGRAMS
[1] BLOCK DIAGRAM 4-1

CHAPTER 5. CIRCUIT DESCRIPTION
[1] VOLTAGE 5-1

CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT
[1] NOTES ON SCHEMATIC DIAGRAM 6-1
[2] TYPES OF TRANSISTOR AND LED 6-1
[3] WIRING SIDE OF PWB/SCHEMATIC DIAGRAM 6-2

CHAPTER 7. OTHERS
[1] FUNCTION TABLE OF IC 7-1
[2] LCD DISPLAY 7-6

Parts Guide

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

PRECAUTIONS FOR USING LEAD-FREE SOLDER

1. Employing lead-free solder

"MAIN,DISPLAY,LED,POWER,SWITCH PWB," of this model employs lead-free solder. The LF symbol indicates lead-free solder is attached on the PWB and service manuals. The alphabetical character following LF shows the type of lead-free solder.

Example:

Sn-Ag-Cu Indicates lead-free solder of tin, silver and copper.

2. Using lead-free wire solder

When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

3. Soldering

As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 C which is higher than the conventional lead solder by 40 C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corrected. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

Ref No.	Parts No.	Description
PWB-A1	DCEKKV491SJ03	MAIN
PWB-A2	DCEKKV491SJ03	DISPLAY
PWB-A3	DCEKKV491SJ03	LED
PWB-A4	DCEKKV491SJ03	POWER
PWB-A5	DCEKKV491SJ03	SWITCH

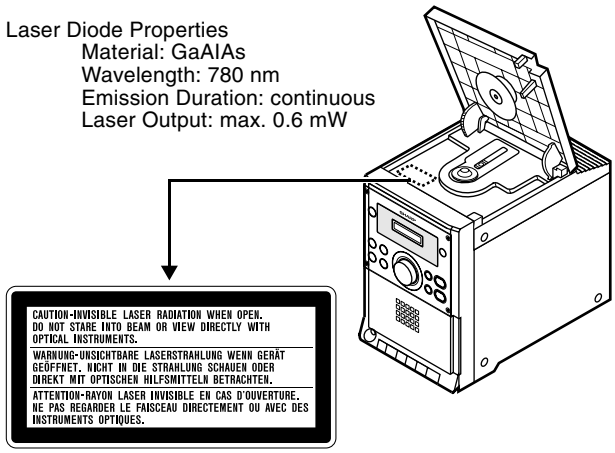
CHAPTER 1. GENERAL DESCRIPTION

[1] SAFETY PRECAUTION FOR SERVICE MANUAL

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class 1 Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam.

1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
4) Under no circumstances look directly into the Pickup Lens at any time.
5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.


Laser Diode Properties
Material: GaAlAs
Wavelength: 780 nm
Emission Duration: continuous
Laser Output: max. 0.6 mW
CAUTION-INVISIBLE LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS.
WARNUNG-UNSICHTBARE LASERSTRAHLUNG WENN GERÄT
GEÖFFNET. NICHT IN DIE STRAHLUNG SCHAUEN ODER
DIREKT MIT OPTISCHEN HILFSMITTELN BETRACHTEN.
ATTENTION-RAYON LASER INVISIBLE EN CAS D'OUVERTURE.
NE PAS REGARDER LE FAISCEAU DIRECTEMENT OU AVEC DES
INSTRUMENTS OPTIQUES.

ADVARSEL-USYNLIG LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.

VARO! AVATTAESSA OLET ALTTIINA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.

VARNING-OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

[2] SPECIFICATIONS

For Europe

■ General

Power source	AC 230 V, 50 Hz
Power consumption	Power on: 25 W Power stand-by: 0.9 W
Dimensions	Width: 160 mm Height: 242 mm Depth: 250 mm
Weight	2.3 kg

■ Amplifier

Output power	PMPO: 30 W (total) MPO: 15 W (7.5 W + 7.5 W) (DIN 45 324) RMS: 10 W (5 W + 5 W) (DIN 45 324)
Output terminals	Speakers: 4 ohms Headphones: 16 - 50 ohms (recommended: 32 ohms)

■ Tuner

Frequency range	FM: 87.5 - 108.0 MHz AM: 522 - 1,620 kHz

■ CD player

Type	Compact disc player
Signal readout	Non-contact, 3-beam semiconductor laser pickup
D/A converter	1-bit D/A converter
Frequency response	20 - 20,000 Hz
Dynamic range	90 dB (1 kHz)

■ Cassette deck

Frequency response	125 - 8,000 Hz (normal tape)
Signal/noise ratio	50 dB (recording/playback)
Wow and flutter	0.35 % (DIN 45 511)

■ Speaker

Type	10 cm full-range speaker
Maximum input power	10 W
Rated input power	5 W
Impedance	4 ohms
Dimensions	Width: 130 mm Height: 240 mm Depth: 161 mm
Weight	1.4 kg/each

For Australia/New Zealand

■ General

Power source	AC 230 - 240 V, 50 Hz
Power consumption	Power on: 25 W Power stand-by: 0.9 W
Dimensions	Width: 160 mm Height: 242 mm Depth: 250 mm
Weight	2.3 kg

■ Amplifier

Output power	RMS: 10 W (5 W + 5 W) (10 % T.H.D.)
Output terminals	Speakers: 4 ohms Headphones: 16 - 50 ohms (recommended: 32 ohms)

■ Tuner

Frequency range	FM: 87.5 - 108.0 MHz AM: 522 - 1,620 kHz

■ CD player

Type	Compact disc player
Signal readout	Non-contact, 3-beam semiconductor laser pickup
D/A converter	1-bit D/A converter
Frequency response	20 - 20,000 Hz
Dynamic range	90 dB (1 kHz)

■ Cassette deck

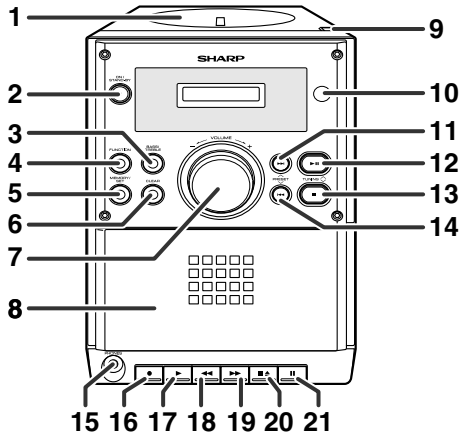
Frequency response	125 - 8,000 Hz (normal tape)
Signal/noise ratio	50 dB (recording/playback)
Wow and flutter	0.3 % (WRMS)

■ Speaker

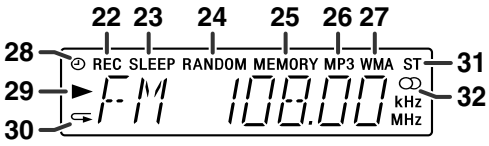
Type	10 cm full-range speaker
Maximum input power	10 W
Rated input power	5 W
Impedance	4 ohms
Dimensions	Width: 130 mm Height: 240 mm Depth: 161 mm
Weight	1.4 kg/each

Specifications for this model are subject to change without prior notice.

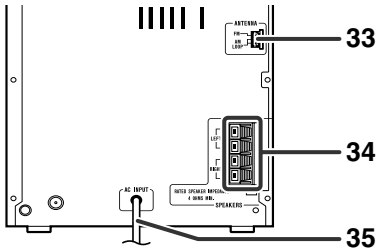
[3] NAMES OF PARTS



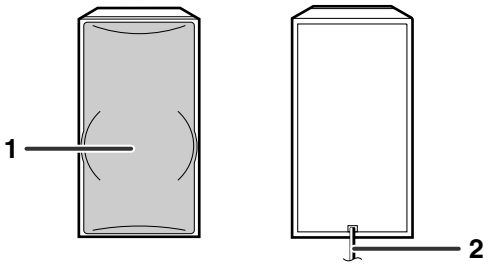
1. Disc Compartment
2. On/Stand-by Button
3. Bass/Treble Selector Button
4. Function Selector Button
5. Memory/Set Button
6. Clear Button
7. Volume Control
8. Cassette Compartment
9. Disc Eject Button
10. Remote Sensor
11. Disc Track Up or Fast Forward, Tuner Preset Up Button
12. Disc Play or Pause, Tuning Up Button
13. Disc Stop, Tuning Down Button
14. Disc Track Down or Fast Reverse, Tuner Preset Down Button
15. Headphone Socket
16. Tape Record Button
17. Tape Play Button
18. Tape Rewind Button
19. Tape Fast Forward Button
20. Tape Stop/Eject Button
21. Tape Pause Button



22. Tape Record Indicator
23. Sleep Indicator
24. Disc Random Play Indicator
25. Memory Indicator
26. MP3 Track Indicator
27. WMA Track Indicator
28. Timer Play Indicator
29. Disc Play Indicator
30. Disc Repeat Indicator
31. FM Stereo Mode Indicator
32. FM Stereo Receiving Indicator

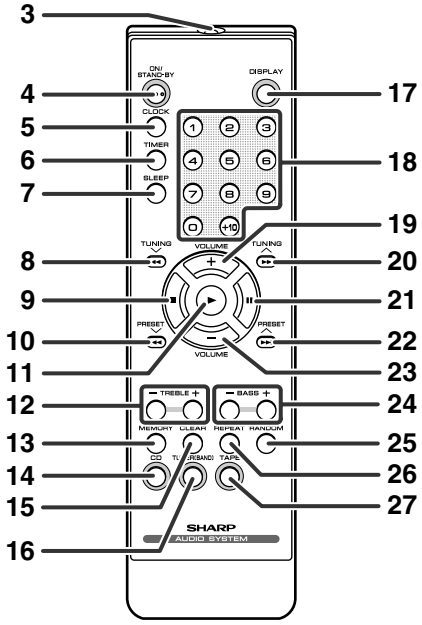


33. FM/AM Loop Aerial Socket
34. Speaker Terminals
35. AC Power Lead



1. Full-Range Speaker
2. Speaker Wire

Note:
The speaker grilles are not removable.



3. Remote Control Transmitter
4. On/Stand-by Button
5. Clock Button
6. Timer Button
7. Sleep Button
8. Disc Fast Reverse, Tuning Down Button
9. Disc Stop Button
10. Disc Track Down, Tuner Preset Down, Time Down Button
11. Disc Play Button
12. Treble Up and Down Buttons
13. Memory Button
14. Disc Button
15. Clear Button
16. Tuner and Band Selector Button
17. MP3/WMA Display Button
18. Direct Search Buttons
19. Volume Up Button
20. Disc Fast Forward, Tuning Up Button
21. Disc Pause Button
22. Disc Track Up, Tuner Preset Up, Time Up Button
23. Volume Down Button
24. Bass Up and Down Buttons
25. Disc Random Play Button
26. Disc Repeat Button
27. Tape Button

CHAPTER 2. ADJUSTMENTS

[1] ADJUSTMENT

1. MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2111	Over 80 g

• Torque Check

Torque Meter	Specified Value
Play: TW-2111	30 to 80 g.cm
Fast forward: TW-2231	70 to 180 g.cm
Rewind: TW-2231	70 to 180 g.cm

• Tape Speed

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-111	Variable Resistor in motor.	3,000 ± 30 Hz	Speaker Terminal (Load resistance: 6 ohms)

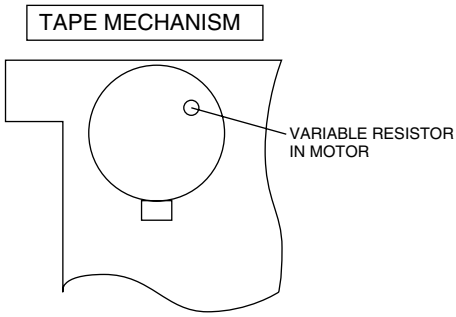


Figure 1

2. TUNER SECTION

fL: Low-range frequency

fH: High-range frequency

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
IF	450 kHz	1,602 kHz	L305	*1
AM Band Coverage	—	522 kHz	(fL): L306 1.1 ± 0.1 V	*2
AM Tracking	990 kHz	990 kHz	L302	*3

*1. Input: IC301 1Pin Output: IC301 23Pin
*2. Input: Input is not connected Output: TP-VT(IC301 28Pin)
*3. Input: Antenna Output:IC301 23Pin

• Check FM VT

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Check Point	Instrument Connection
87.5 MHz	87.5 MHz	1.5V ± 1.0V	TP-VT
108 MHz	108 MHz	5.0V ± 1.0V	TP-VT

• FM Mute Level

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Adjusting Parts	Instrument Connection
98.00 MHz (30 dBμV)	98.00 MHz		Input: Antenna Output: Speaker Terminal

• FM Detection

Signal generator: 10.7 MHz FM sweep generator

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
FM IF	10.7 MHz	98.00 MHz		Input: Pin 36 of IC301 Output: Pin 23 of IC301

• FM RF

Signal generator: 1 kHz, 75 kHz dev., FM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
FM Band Coverage	—	87.50 MHz	(fL): L307 1.5 ± 0.1 V	*1
FM RF	98.00 MHz (10 ~ 20dB)	98.00 MHz	L304	*1

*1. Input: Antenna Output: 23 Pin of IC301

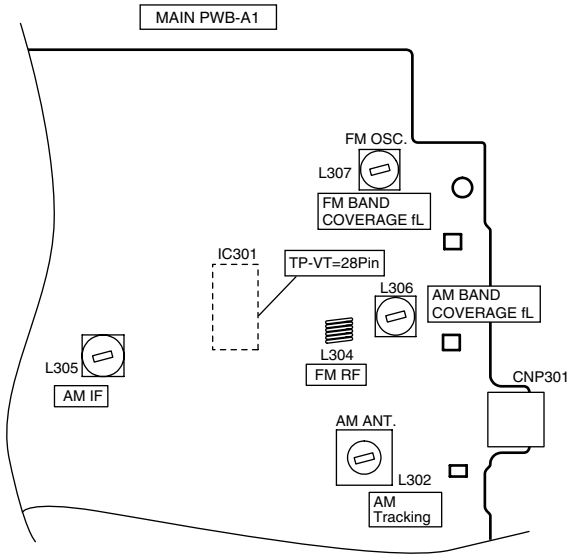


Figure 2 ADJUSTMENT POINTS

3. CD SECTION

- **Adjustment**

  Since this CD system incorporates the following automatic adjustment functions, readjustment is not needed when replacing the pickup. Therefore, different PWBs and pickups can be combined freely.

  Each time a disc is changed, these adjustments are performed automatically. Therefore, playback of each disc can be performed under optimum conditions.

[2] TEST MODE

Test Mode Key Operation

KEY1	KEY2	KEY3	TEST CONTENTS	INDICATION
Memory	Preset Down	ON/STAND-BY	Preset clear	Tu CL
Memory	Stop	ON/STAND-BY	Preset set	FM P-01
Memory	Play	ON/STAND-BY	Display	
Memory	Preset up	ON/STAND-BY	CD	T-1
Memory	Clear	ON/STAND-BY	Soft reset	CL
Bass/treble	Preset down	ON/STAND-BY	Volume	T-3
Bass/treble	Play	ON/STAND-BY	Timer test	T-4
Bass/treble	Clear	ON/STAND-BY	all key	T-6
				September 12 Days Indication Change

All test modes can be terminated by turning off the power with ON/STAND-BY key.

- **Preset clear test**

  All tuner preset stations are cleared.

- **Preset set test**

CH	BAND	FREQUENCY
1	FM STEREO	FM 87.50 MHz
2		FM 108.00 MHz
3		FM 98.00 MHz
4		FM 90.00 MHz
5		FM 106.00 MHz
6	AM	AM 522 kHz
7		AM 1620 kHz
8		AM 990 kHz
9		AM 603 kHz

CH	BAND	FREQUENCY
10	AM	AM 1404 kHz
11 . . 35		————————
36	FM MONO	FM 106.00 MHz
37		FM 90.00 MHz
38		FM 98.00 MHz
39		FM 108.00 MHz
40		FM 87.50 MHz

Stations are set according to destination.

- **Display test**

  When test mode is activated, the entire display lights up. As the “PLAY” key is pressed, half of the display lights up alternately.

- **CD test**

[cd step 1] Enter test mode. ←———————— Ⓐ

↓ Hold down the “memory” key

[cd step 2] After some steps, the laser turns on.

↓ Hold down the “memory” key

[cd step 3] After some steps, focus search is performed.

↓ Hold down the “memory” key

[cd step 4] After some steps, CLV rotation is performed.

↓ Hold down the “memory” key

[cd step 5] CD playback starts.

↓ Hold down the “stop” key to return to [cd step 1] ———————— Ⓐ

In step 5, hold down the AUX key on the remote control. The tracking servo is switched on/off.

From step 3, the pick up can be moved with the FF/REW key.

- **Soft reset test**

  All data in RAM is cleared.

- **VOLUME test**

  Starting from level 23 (default), check all the levels (0 - 23 - MAX).

- **TIMER test**

  Start the timer at 1:00. When it reaches 1:05, turn on the power with the AUX function and turn off the power after about 30 seconds.

  (In the test mode, fade-in and fade-out are not required.)

- **ALL KEY test**

  In the test mode, hold down all the buttons on the main unit and then press the “ON/STAND-BY” key. “OK” appears.

  If only the “ON/STAND-BY” key is pressed, “ERROR” appears.

[3] When the CD does not function

The CD section may not operate when the objective lens of the optical pickup is dirty. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

Turn the power off.

Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

Do not touch the lens with the bare hand.

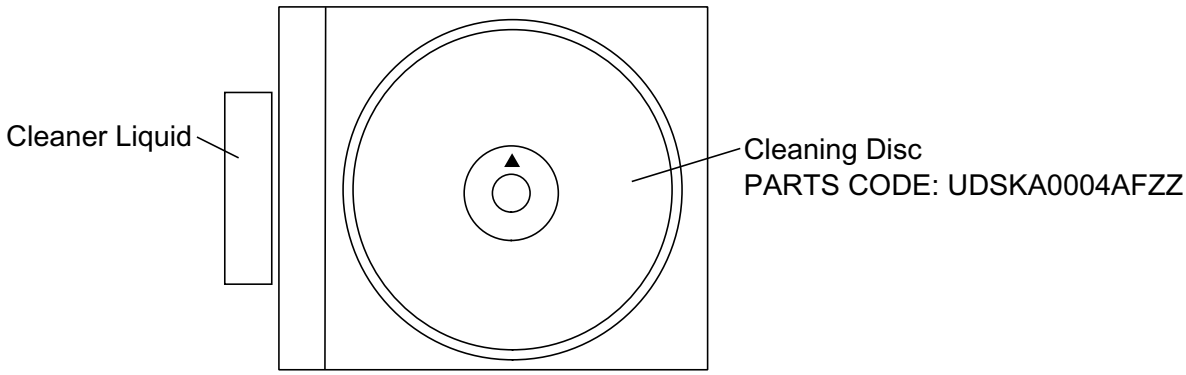
		Parts code
1.	CD optical pickup Lens cleaner disc	UDSKA0004AFZZ

HOW TO USE

1. Using the brush in the cleaner cap, apply 1 or 2 drops of the cleaning fluid to the brush on the CD cleaner disc which has the ▲ mark next to it.
2. Place the CD cleaner disc onto the CD disc tray with the brush side down, then press the play button.
3. You will hear music for about 20 seconds and the CD player will automatically stop. If it continues to turn, press the stop button.

CAUTION

- The CD lens cleaner should be effective for 30~50 operations, however if the brushes become worn out earller then please replace the cleaner disc.
- If the CD cleaner brushes become very wet then wipe off any excess fluid with a soft cloth.
- Do not drink the cleaner fluid or allow it to come in contact with the eyes. In the event of this happening then drink and / or rinse with clean water and seek medical advice.
- The CD cleaner disc must not be used on car CD players or on computer CD ROM drives.
- All rights reserved. Unauthorized duplicating, broadcasting and renting this product is prohibited by law.



CHAPTER 3. MECHANICAL DESCRIPTION

[1] DISASSEMBLY

Caution on Disassembly
Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:
1) Take cassette tape and compact disc out of the unit.
2) Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3) Take off nylon bands or wire holders where they need to be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4) Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw.....(A1) x 5 2. Socket.....(A2) x 2 3. Flat Cable.....(A3) x 1	1
2	Side Panel	1. Screw.....(B1) x 4	1
3	Rear Panel/Main PWB	1. Screw.....(C1) x 2 2. Screw.....(C2) x 2	1 2
4	Main PWB	1. Screw.....(D1) x 2 2. Socket.....(D2) x 2 3. Socket.....(D3) x 1	2
5	Front Panel	1. Screw.....(E1) x 2	3
6	Power PWB	1. Screw.....(F1) x 2 2. Screw.....(F2) x 1	3
7	Display PWB	1. Knob.....(G1) x 1 2. Screw.....(G2) x 8	4
8	Tape Mechanism	1. Screw.....(H1) x 1 2. Screw.....(H2) x 4	4
9	Switch PWB	1. Screw.....(J1) x 1 2. Hook.....(J2) x 2	5
10	CD Mechanism (Note1)	1. Screw.....(K1) x 4	5

Note 1:

After removing the connector for the optical pickup from the connector, wrap the conductive aluminium foil around the front end of the connector so as to protect the optical pickup from electrostatic damage.

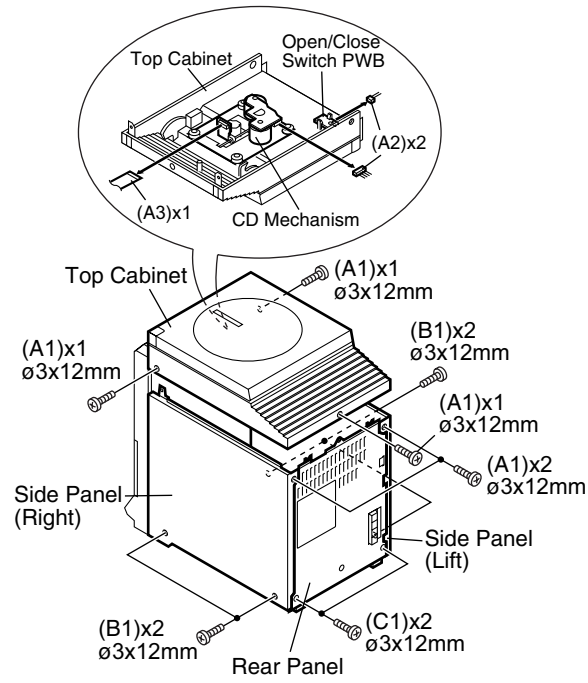


Figure 1

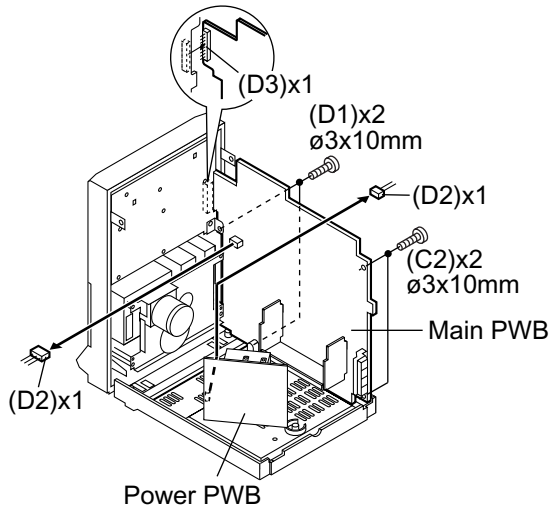


Figure 2

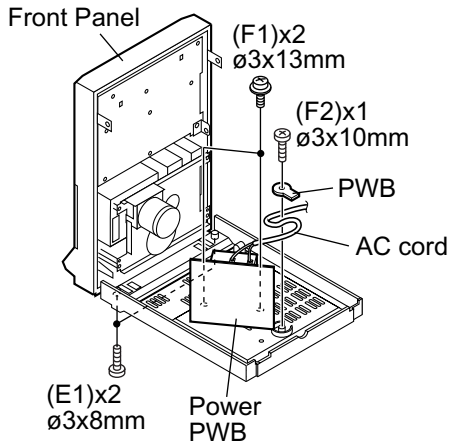


Figure 3

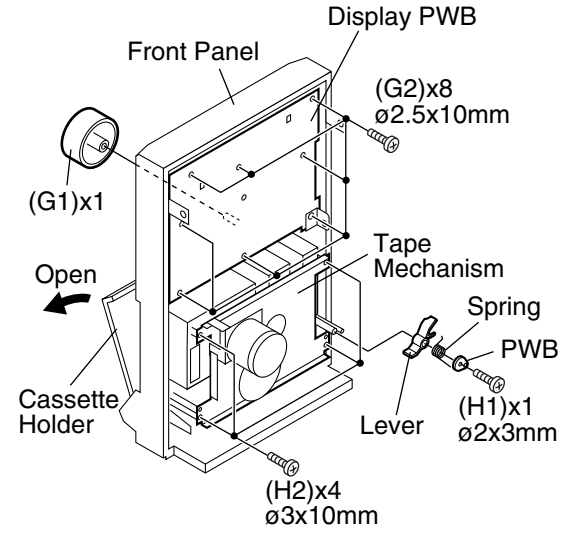


Figure 4

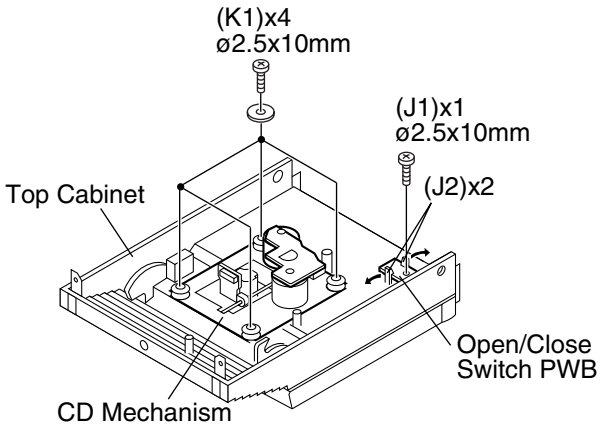


Figure 5

-MEMO-

CHAPTER 4. DIAGRAMS

[1] BLOCK DIAGRAM

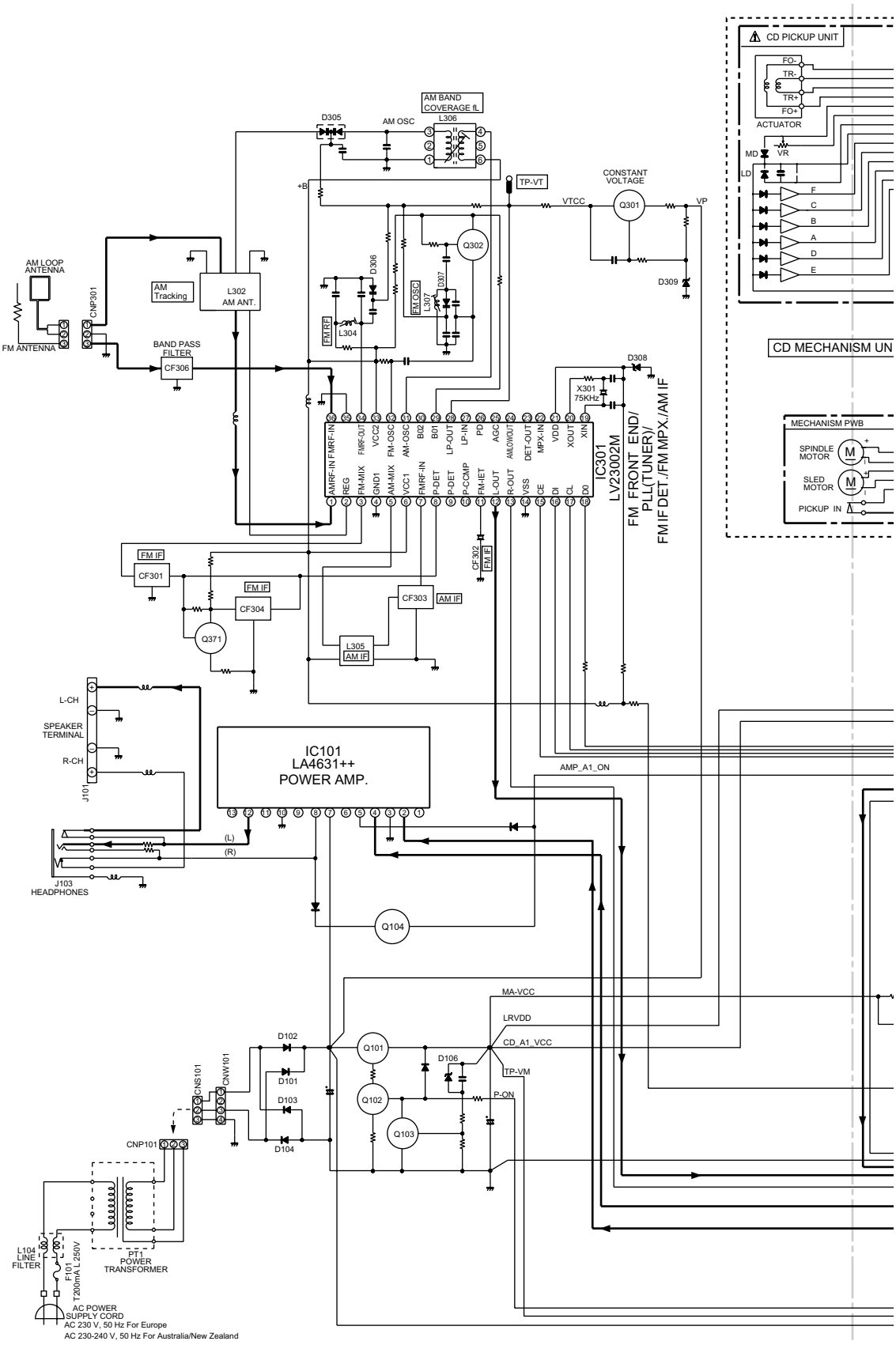


Figure 4-1 BLOCK DIAGRAM (1/4)

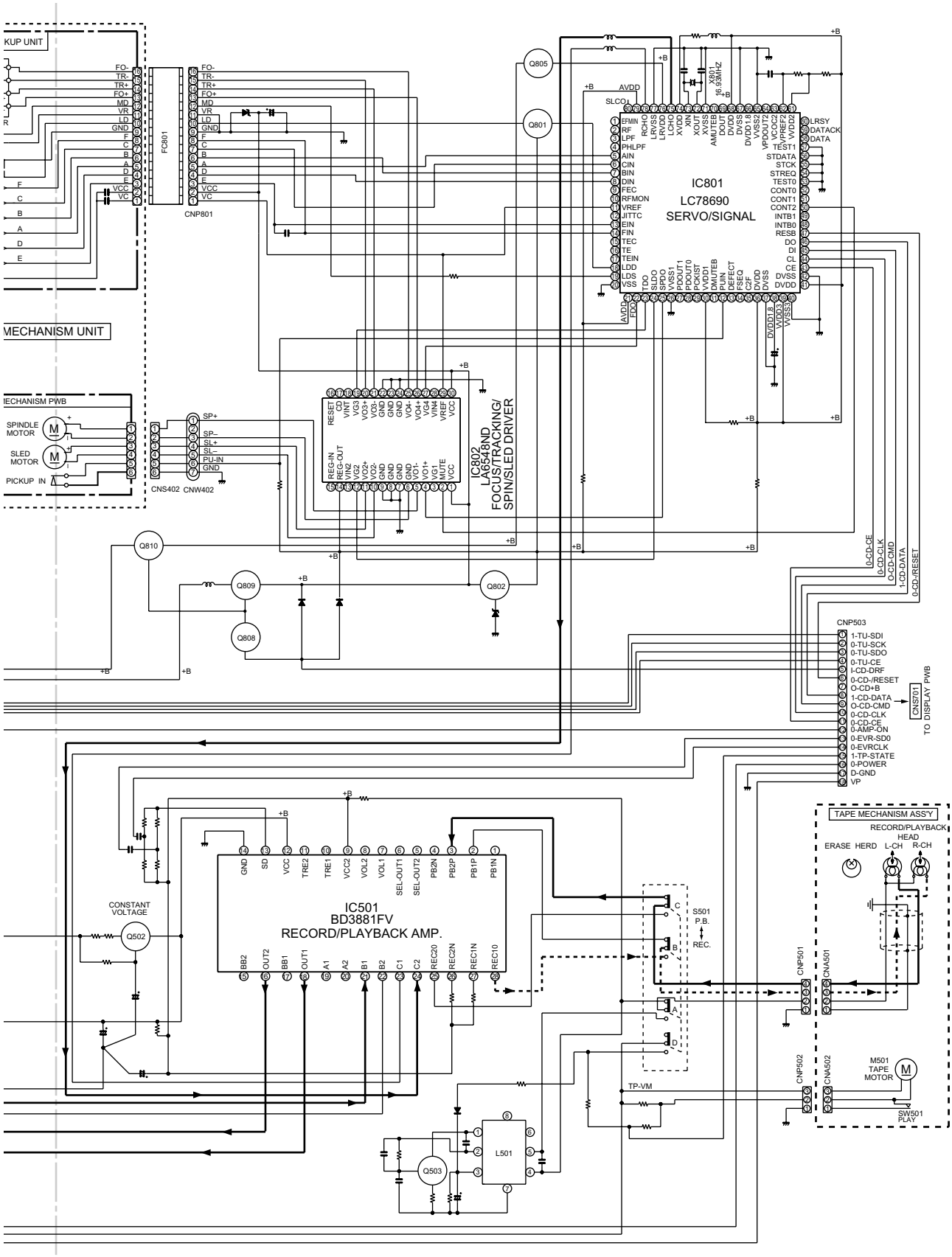


Figure 4-2 BLOCK DIAGRAM (2/4)

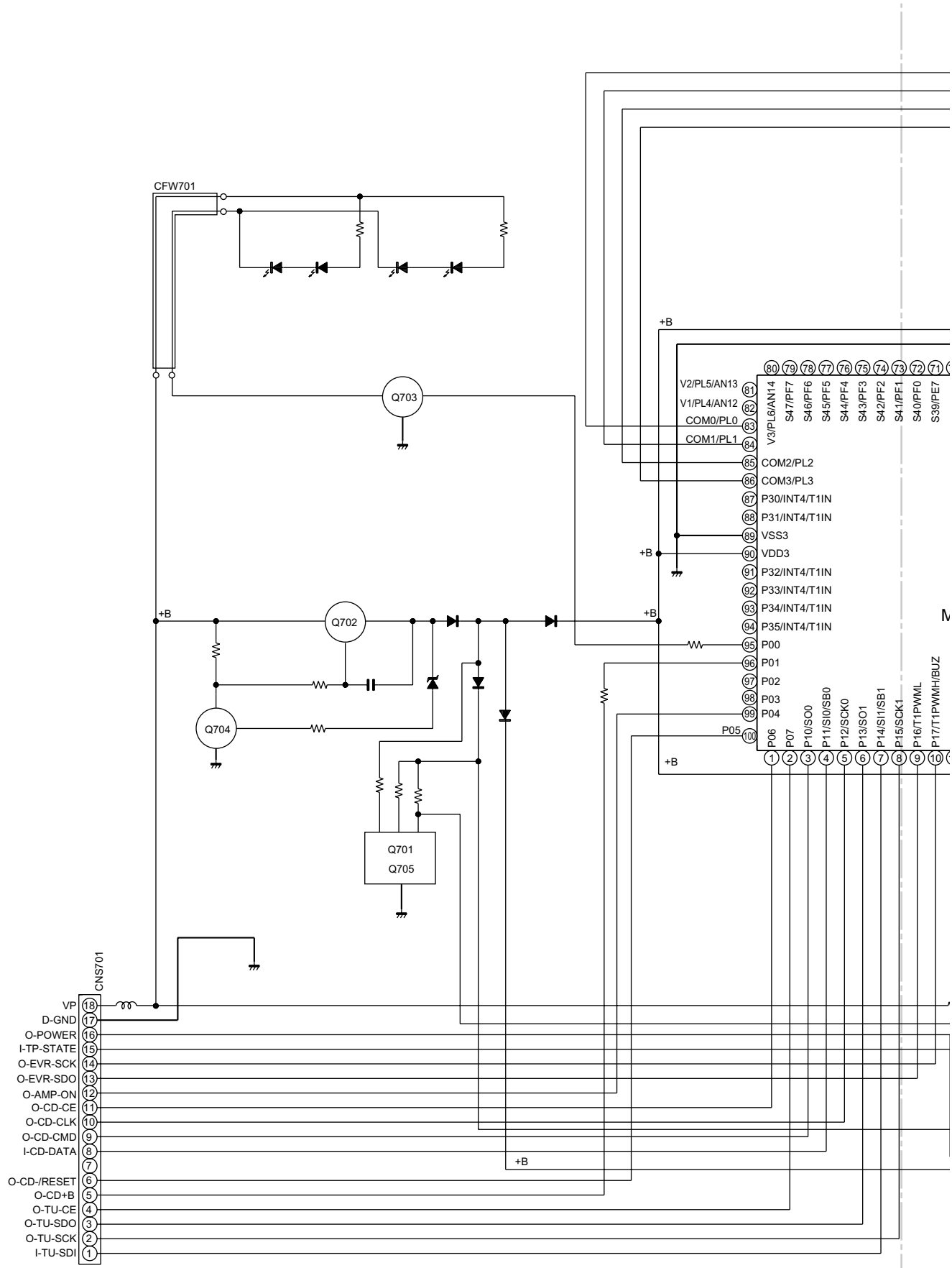


Figure 4-3 BLOCK DIAGRAM (3/4)

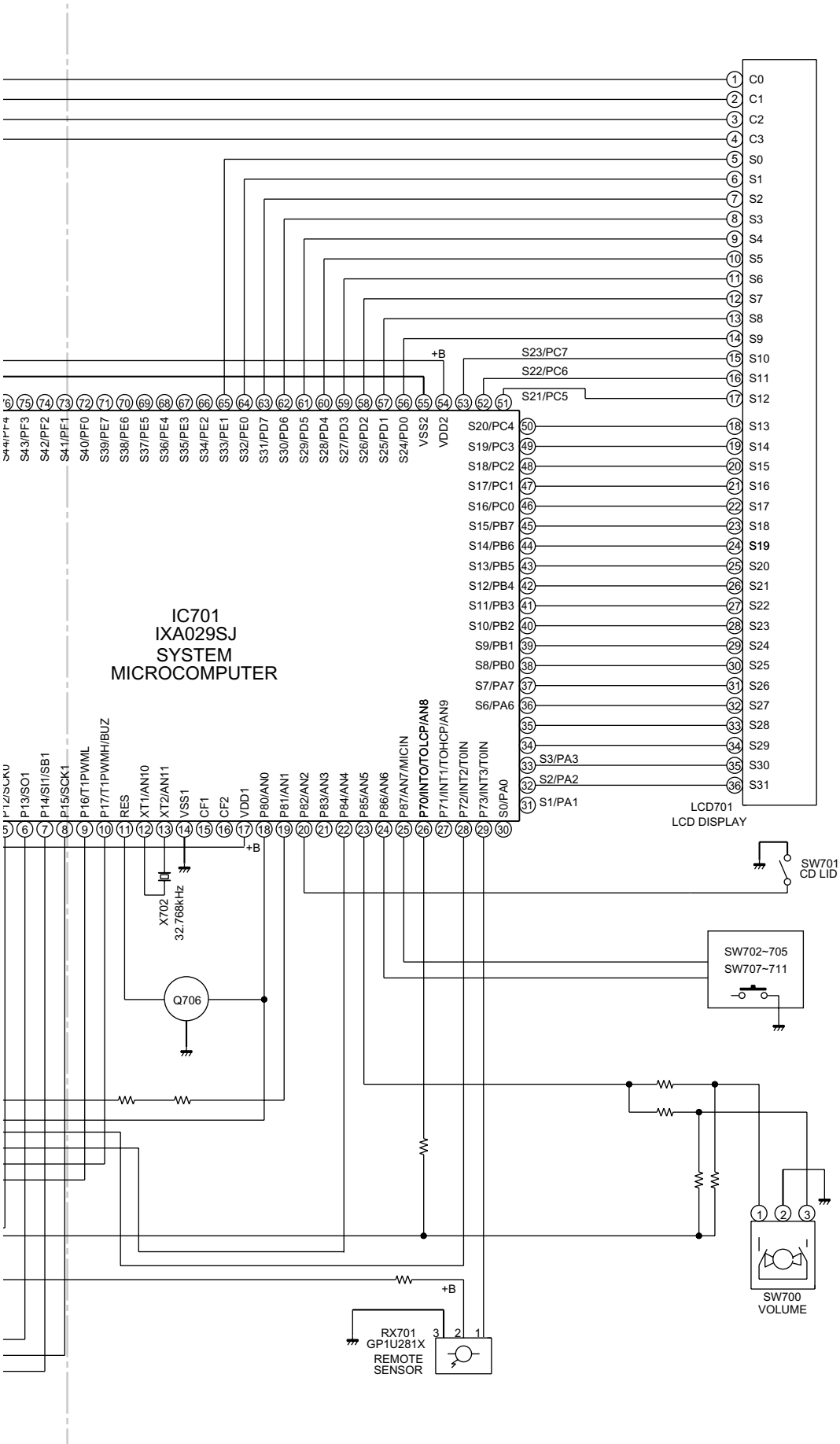


Figure 4-4 BLOCK DIAGRAM (4/4)

CHAPTER 5. CIRCUIT DESCRIPTION

[1] VOLTAGE

IC101	
PIN NO.	VOLTAGE
1	9.63V
2	1.6V
3	0V
4	1.6V
5	2.3V
6	12.5V
7	19V
8	9.8V
9	0V
10	0V
11	0V
12	9.8V
13	0V

IC301	
PIN NO.	VOLTAGE
1	2.1V
2	2.1V
3	2.6V
4	0V
5	5.2V
6	5.2V
7	2.1V
8	2.1V
9	4.2V
10	4V
11	3V
12	2.2V
13	2.2V
14	0V
15	0V
16	0V
17	0V
18	4.5V
19	1.7V
20	1.7V
21	3.5V
22	2.2V
23	2.4V
24	0V
25	1V
26	2.1V
27	2.1V
28	1.4V
29	2.7V
30	5V
31	5V
32	5V
33	5V
34	5V
35	0V
36	1V

IC501	
PIN NO.	VOLTAGE
1	3.5V
2	3.5V
3	3.5V
4	3.5V
5	3.5V
6	3.5V
7	3.5V
8	3.5V
9	3.5V
10	3.5V
11	3.5V
12	7.2V
13	3.5V
14	0V
15	3.5V
16	3.5V
17	3.5V
18	2.5V
19	2.5V
20	3.5V
21	3.5V
22	3.5V
23	3.5V
24	3.5V
25	3.5V
26	3.5V
27	3.5V
28	3.5V

IC802	
PIN NO.	VOLTAGE
1	8.5V
2	0V
3	1.7V
4	1.7V
5	3.9V
6	3.9V
7	0V
8	0V
9	0V
10	3.9V
11	3.9V
12	1.7V
13	1.7V
14	3.4V
15	8.5V
16	3.4V
17	4V
18	1.7V
19	1.7V
20	3.9V
21	3.9V
22	0V
23	0V
24	0V
25	3.9V
26	3.9V
27	1.7V
28	1.7V
29	1.7V
30	8.5V

IC801	
PIN NO.	VOLTAGE
1	1.65V
2	1.6V
3	1.6V
4	1.8V
5	1.7V
6	1.7V
7	1.7V
8	1.7V
9	1.6V
10	1.7V
11	1.7V
12	2.8V
13	1.7V
14	1.7V
15	1.7V
16	1.7V
17	1.7V
18	3.4V
19	0V
20	0V
21	0V
22	1.7V
23	1.7V
24	1.7V
25	1.7V
26	0V
27	0V
28	0.8V
29	1V
30	3.1V
31	0V
32	3.1V
33	0V
34	0V
35	0V
36	3.1V
37	0V
38	1.8V
39	3.1V
40	0V
41	3.1V
42	0V
43	0V
44	3.6V
45	3.6V
46	0V
47	3.6V
48	0V
49	0V
50	0V
51	0V
52	0V
53	0V
54	0V
55	0V
56	0V
57	0V
58	0V
59	0V
60	0V
61	2.9V
62	1.5V
63	1.9V
64	1.9V
65	0V
66	1.8V
67	0V
68	3.1V
69	0V
70	0V
71	0V
72	1.3V
73	1.4V
74	3V
75	1.6V
76	3.1V
77	0V
78	1.6V
79	3.2V
80	1.6V

IC701			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	51	2.6V
2	0V	52	2.6V
3	5V	53	2.6V
4	0V	54	5V
5	5V	55	0V
6	0V	56	2.6V
7	4.4V	57	2.6V
8	0V	58	2.6V
9	0V	59	2.6V
10	0V	60	2.6V
11	5V	61	2.6V
12	1.6V	62	2.6V
13	0V	63	2.6V
14	0V	64	2.6V
15	0V	65	2.6V
16	0V	66	0V
17	5.1V	67	0V
18	0V	68	0V
19	0V	69	0V
20	5V	70	0V
21	0V	71	0V
22	2.4V	72	0V
23	0V	73	0V
24	0V	74	0V
25	5.3V	75	0V
26	0V	76	0V
27	0V	77	0V
28	0V	78	0V
29	0V	79	0V
30	2.6V	80	1.7V
31	2.6V	81	1.7V
32	2.6V	82	1.7V
33	2.6V	83	2.6V
34	2.6V	84	2.6V
35	2.6V	85	2.6V
36	2.6V	86	2.6V
37	2.6V	87	0V
38	2.6V	88	0V
39	2.6V	89	0V
40	2.6V	90	5.2V
41	2.6V	91	0V
42	2.6V	92	0V
43	2.6V	93	0V
44	2.6V	94	0V
45	2.6V	95	0V
46	2.6V	96	0V
47	2.6V	97	0V
48	2.6V	98	0V
49	2.6V	99	0V
50	2.6V	100	0V

Q101	
PIN NO.	VOLTAGE
E	20V
C	8.5V
B	19.4V

Q102	
PIN NO.	VOLTAGE
E	0V
C	19.3V
B	0.7V

Q103	
PIN NO.	VOLTAGE
E	0V
C	0.7V
B	0.6V

Q104	
PIN NO.	VOLTAGE
E	0V
C	5V
B	0.6V

Q301	
PIN NO.	VOLTAGE
E	10.4V
C	18.7V
B	11V

Q302	
PIN NO.	VOLTAGE
E	1V
C	2.7V
B	1.75V

Q371	
PIN NO.	VOLTAGE
E	0V
C	3.6V
B	0.83V

Q502	
PIN NO.	VOLTAGE
E	7.2V
C	7.6V
B	7.9V

Q503	
PIN NO.	VOLTAGE
E	0V
C	3.7V
B	0V

Q701	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.6V

Q702	
PIN NO.	VOLTAGE
E	6.6V
C	15V
B	7.3V

Q703	
PIN NO.	VOLTAGE
E	5V
C	9.8V
B	4.3V

Q704	
PIN NO.	VOLTAGE
E	0V
C	7.4V
B	6.6V

Q705	
PIN NO.	VOLTAGE
E	0V
C	5.3V
B	0V

Q706	
PIN NO.	VOLTAGE
E	0V
C	5V
B	0V

Q801	
PIN NO.	VOLTAGE
E	3.5V
C	0V
B	3.4V

Q802	
PIN NO.	VOLTAGE
E	3.3V
C	8.5V
B	4V

Q805	
PIN NO.	VOLTAGE
E	3.1V
C	8.5V
B	3.8V

Q808	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.25V

Q809	
PIN NO.	VOLTAGE
E	8.5V
C	8.5V
B	7.8V

Q810	
PIN NO.	VOLTAGE
E	8.5V
C	8.5V
B	7.8V

-MEMO-

CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

[1] NOTES ON SCHEMATIC DIAGRAM

- Resistor:

  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.

- Capacitor:

  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.

  (CH), (TH), (RH), (UJ): Temperature compensation

  (ML): Mylar type

  (P.P.): Polypropylene type

- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.

- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.

1. In the tuner section,

   ( ) indicates AM

   < > indicates FM stereo

2. In the main section, a tape is being played back.
3. In the deck section, a tape is being played back.

   ( ) indicates the record state.

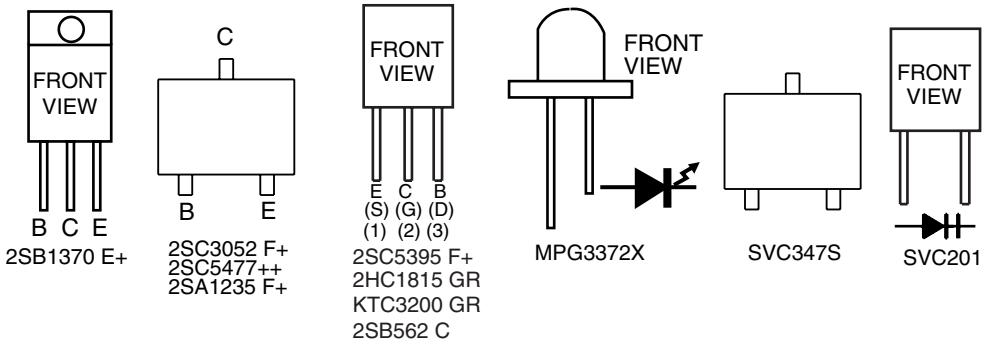
4. In the power section, a tape is being played back.
5. In the CD section, the CD is stopped.

- Parts marked with “ ⚠ ” (⊏ ⚌ ⚌ ⚌ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
S501	RECORD/PLAYBACK	REC.—P.B.
SW501	PLAY	ON—OFF
SW700	VOLUME	ON—OFF
SW701	CD LID	ON—OFF
SW702	ON/STAND-BY	ON—OFF
SW703	FUNCTION	ON—OFF

REF. NO	DESCRIPTION	POSITION
SW704	BASS/TRBLE	ON—OFF
SW705	MEMORY/SET	ON—OFF
SW707	TUNING UP	ON—OFF
SW708	TUNING DOWN	ON—OFF
SW709	PRESET UP	ON—OFF
SW710	PRESET DOWN	ON—OFF
SW711	CLEAR	ON—OFF

[2] TYPES OF TRANSISTOR AND LED



[3] WIRING SIDE OF PWB/SCHEMATIC DIAGRAM

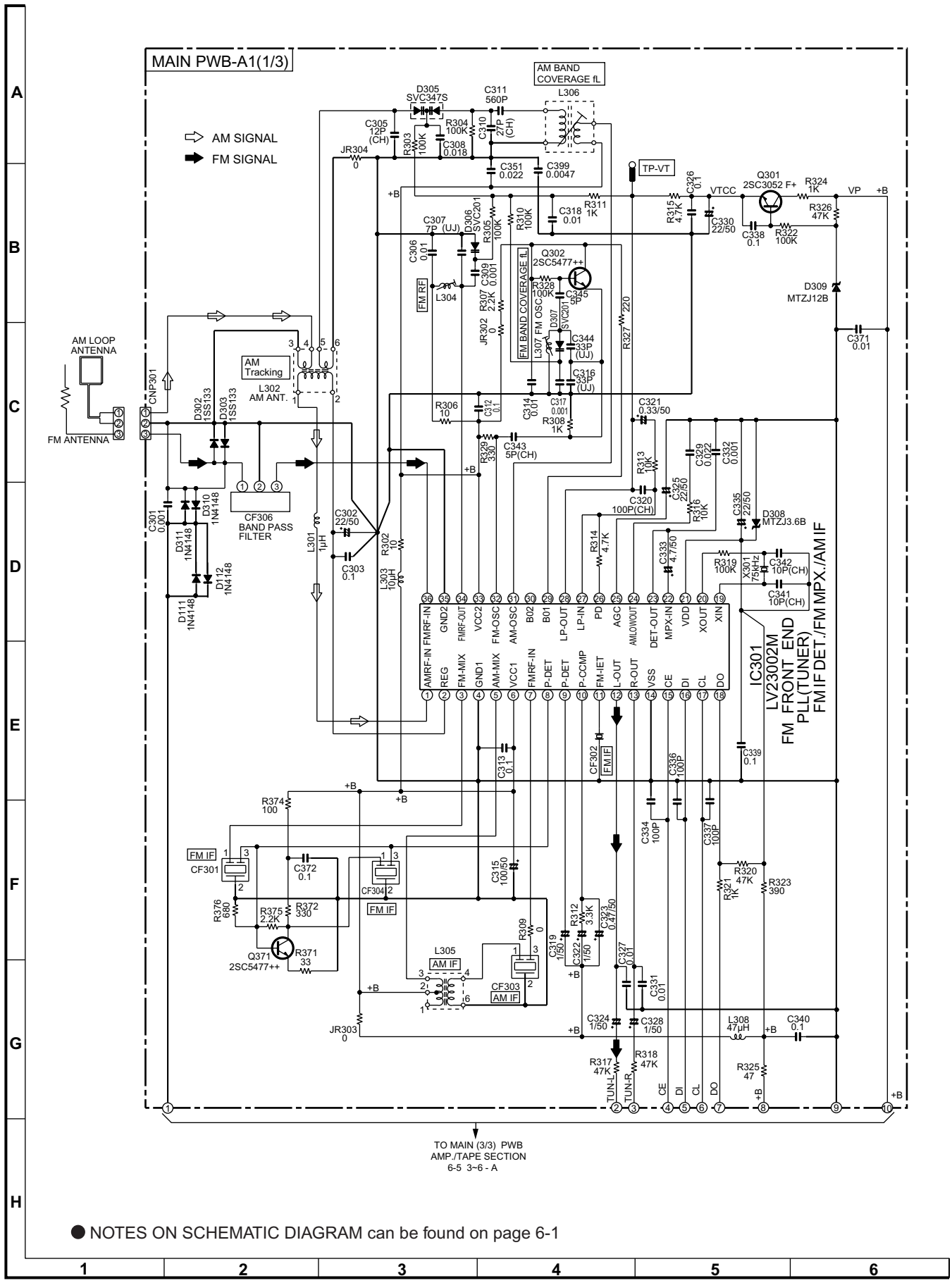


Figure 6-2 SCHEMATIC DIAGRAM (1/7)

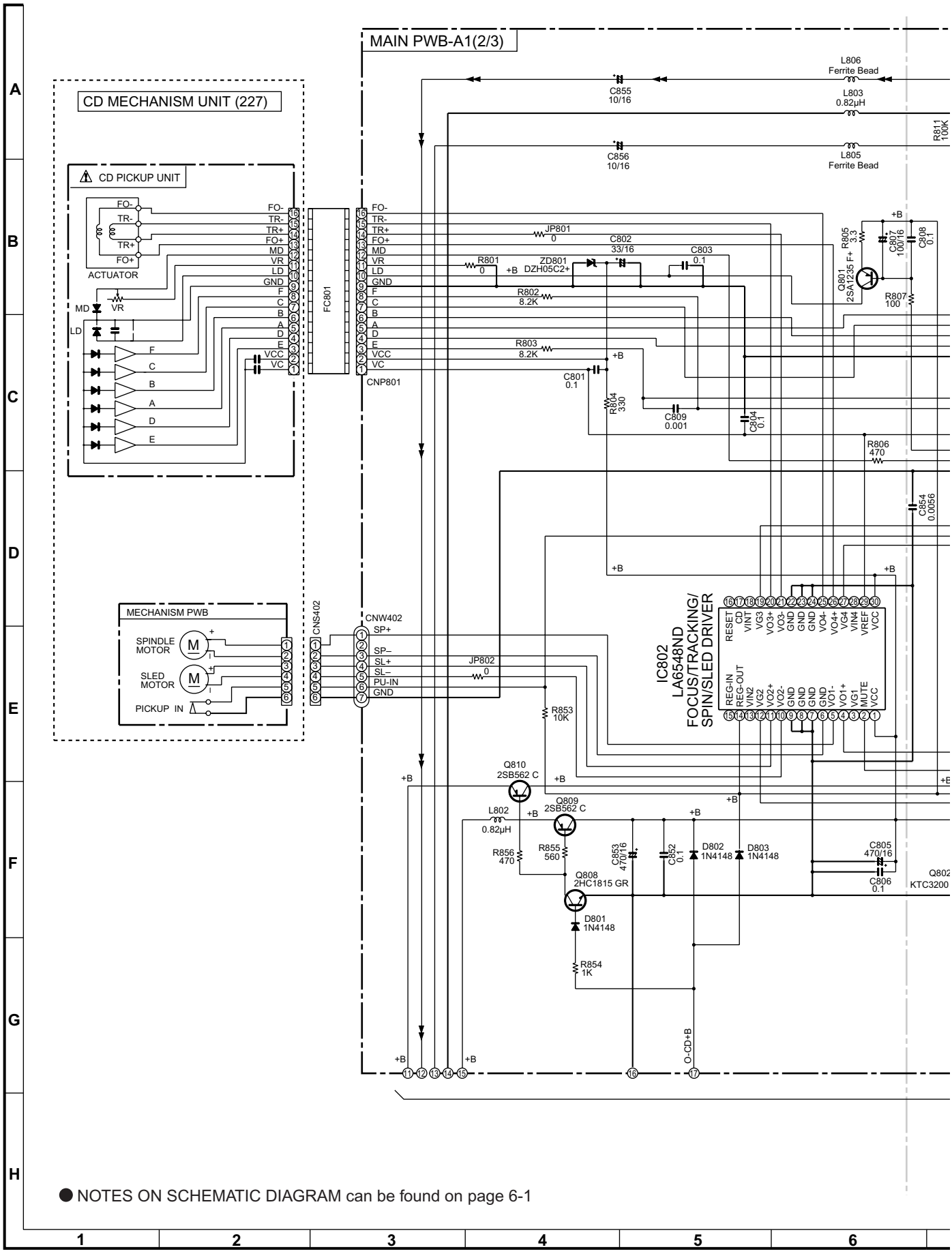
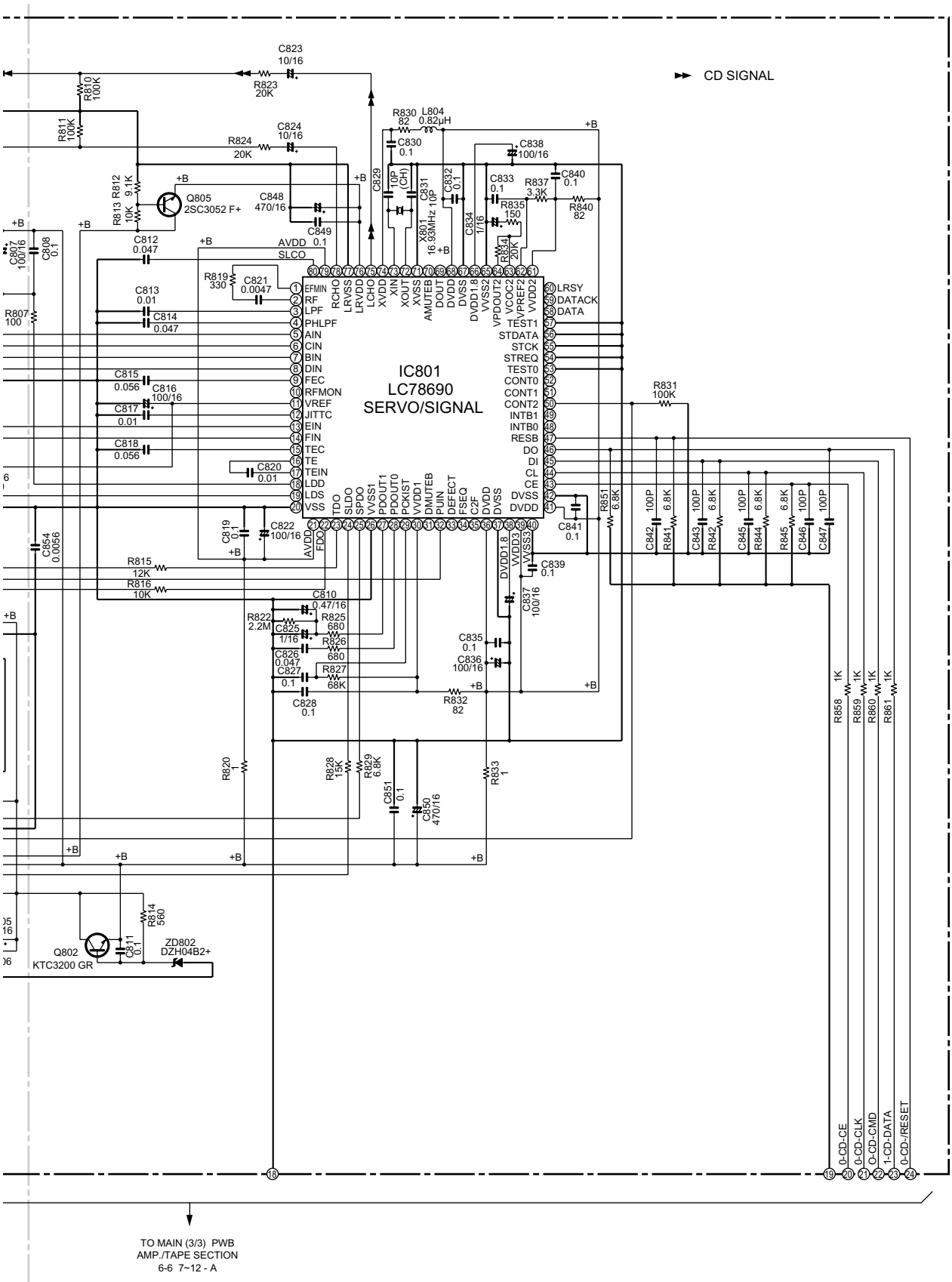


Figure 6-3 SCHEMATIC DIAGRAM (2/7)



7	8	9	10	11	12

Figure 6-4 SCHEMATIC DIAGRAM (3/7)

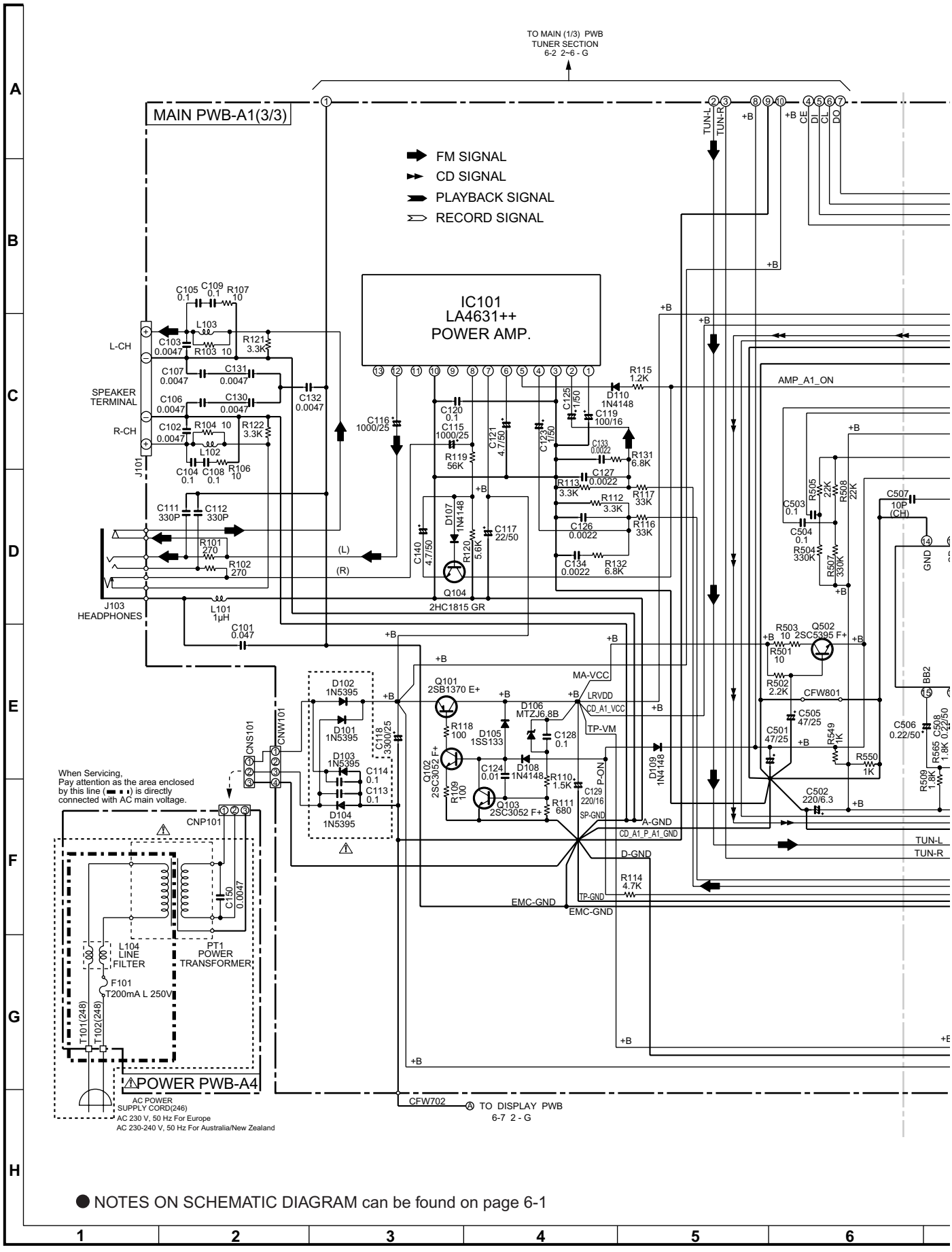
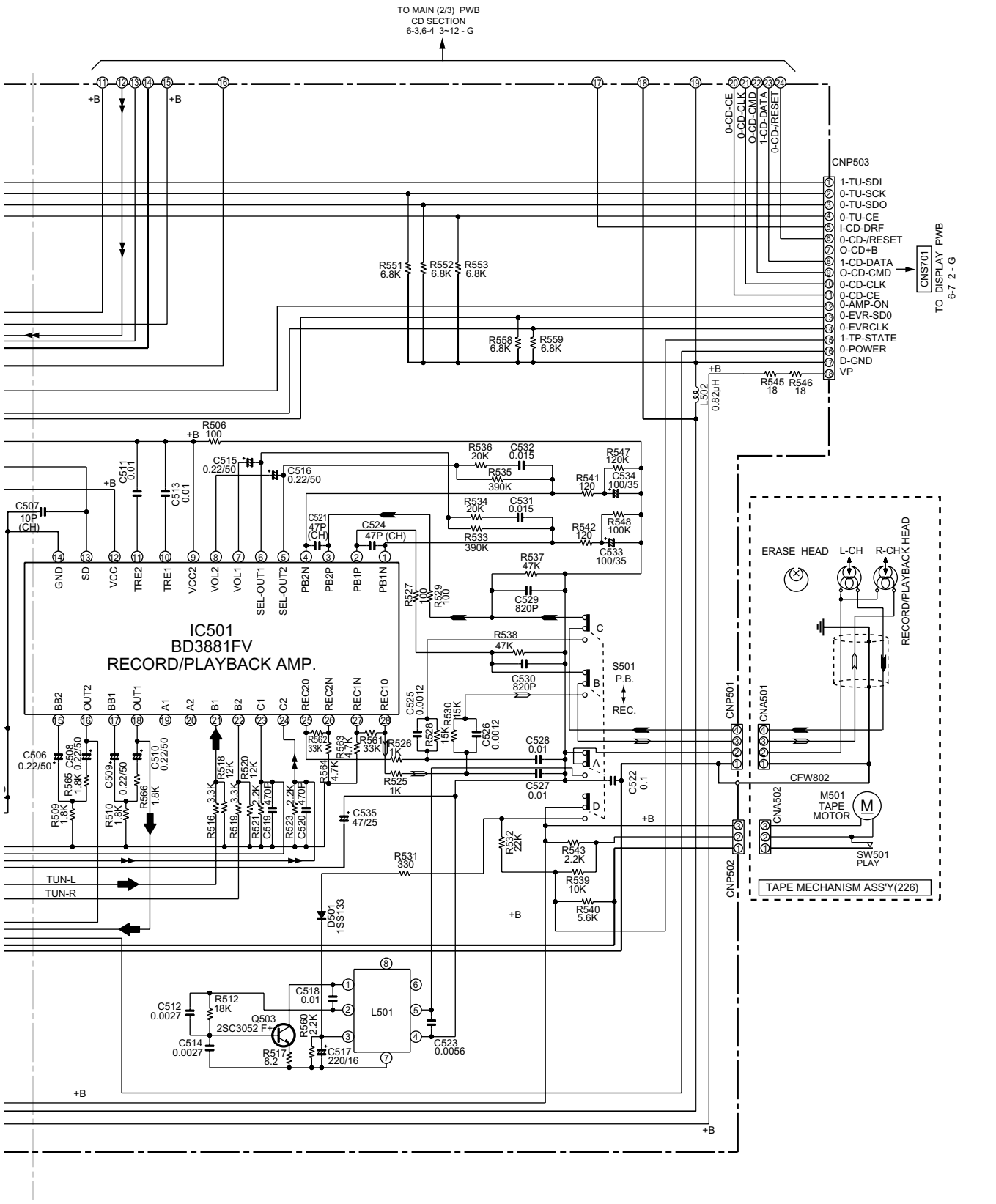
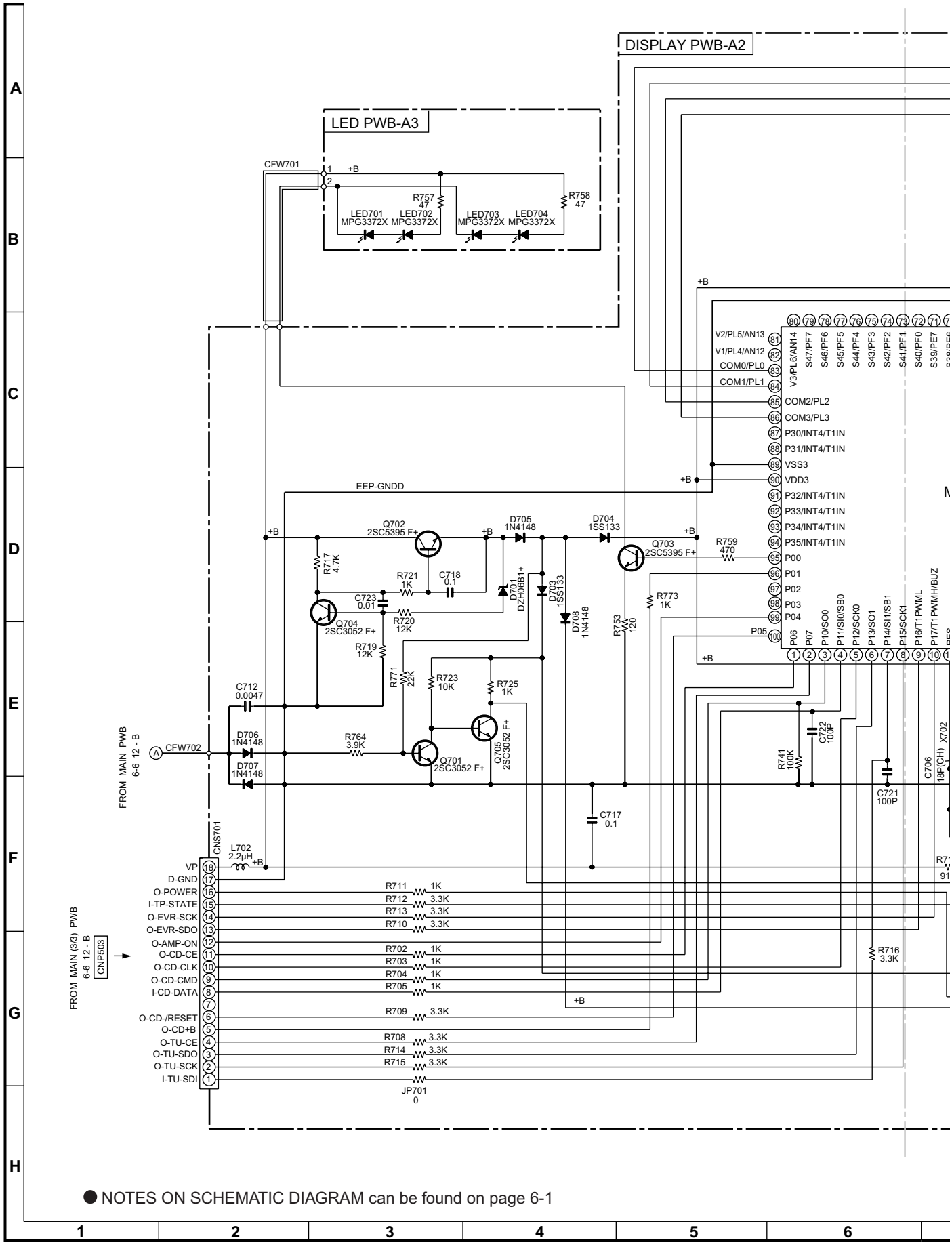


Figure 6-5 SCHEMATIC DIAGRAM (4/7)



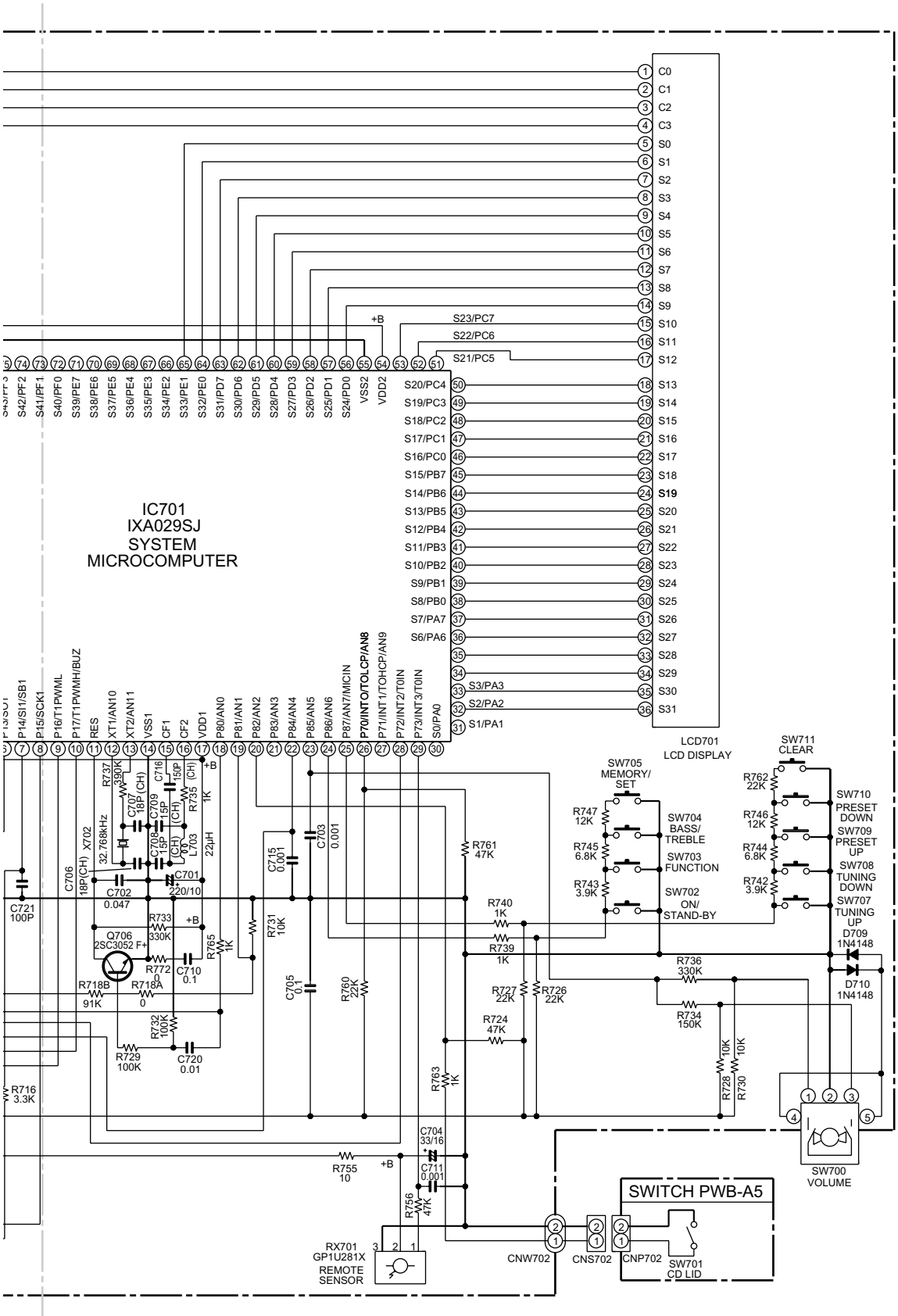
	7	8	9	10	11	12

Figure 6-6 SCHEMATIC DIAGRAM (5/7)



● NOTES ON SCHEMATIC DIAGRAM can be found on page 6-1

Figure 6-7 SCHEMATIC DIAGRAM (6/7)



	7	8	9	10	11	12

Figure 6-8 SCHEMATIC DIAGRAM (7/7)

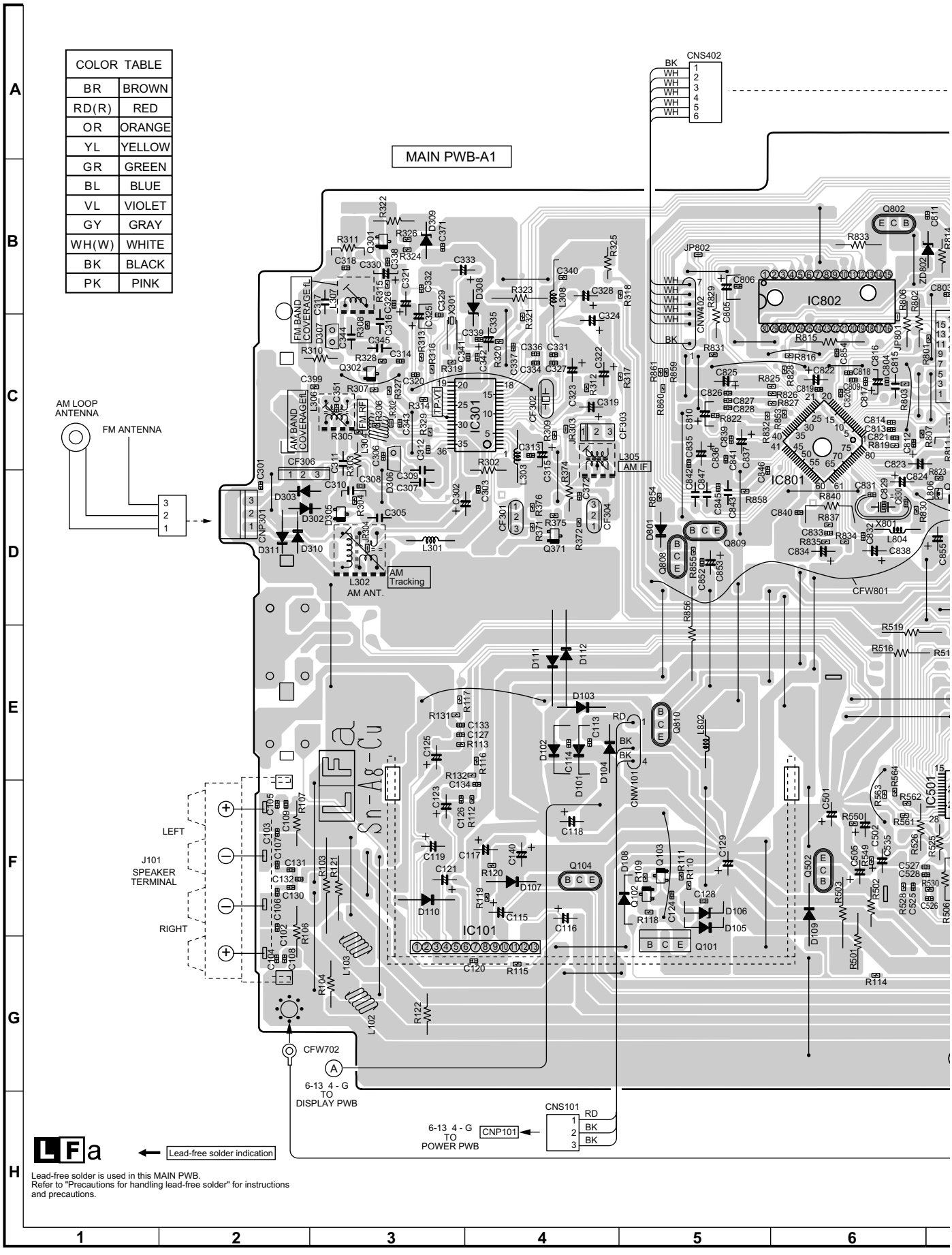
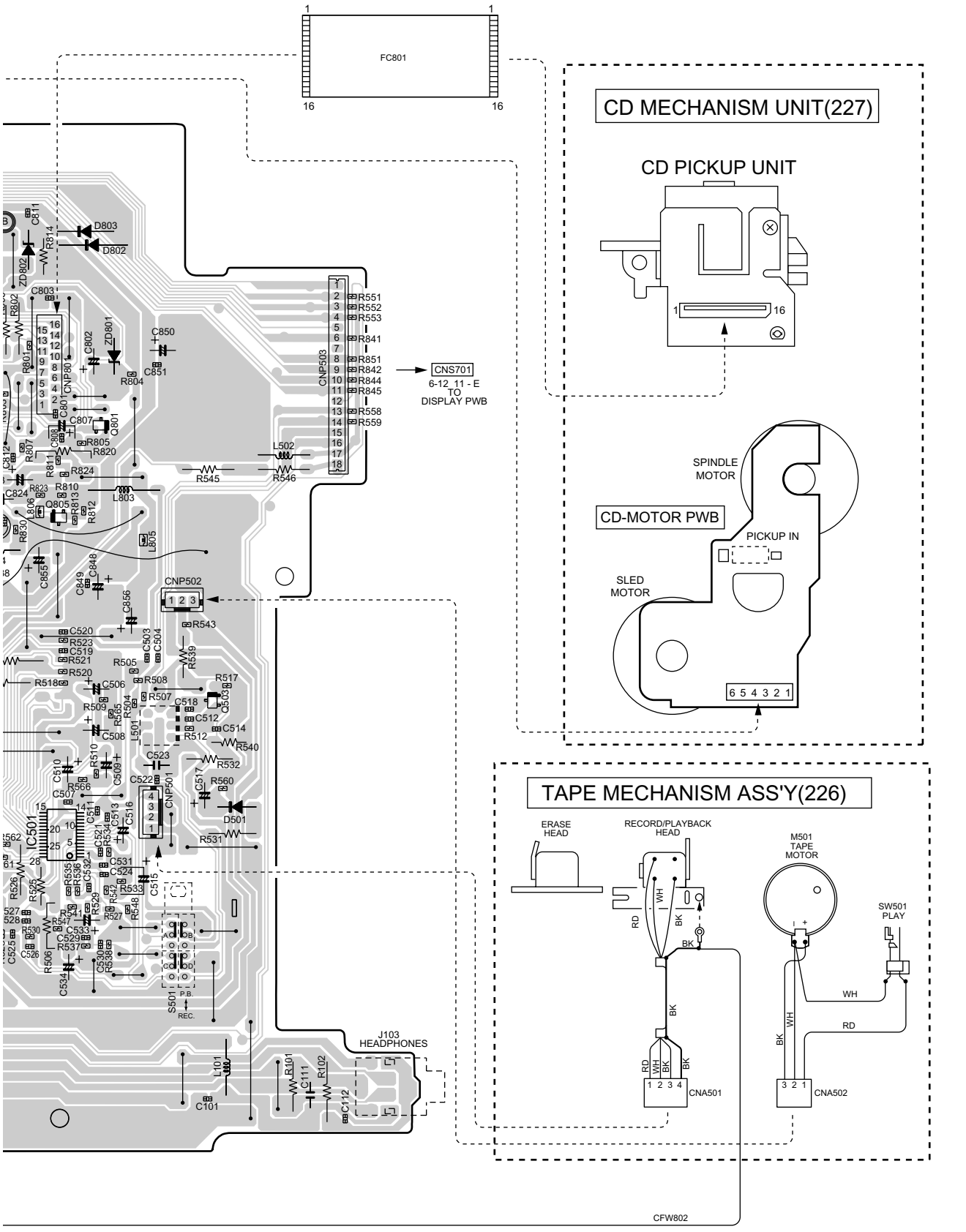


Figure 6-9 WIRING SIDE OF PWB (1/5)



7	8	9	10	11	12

Figure 6-10 WIRING SIDE OF PWB (2/5)

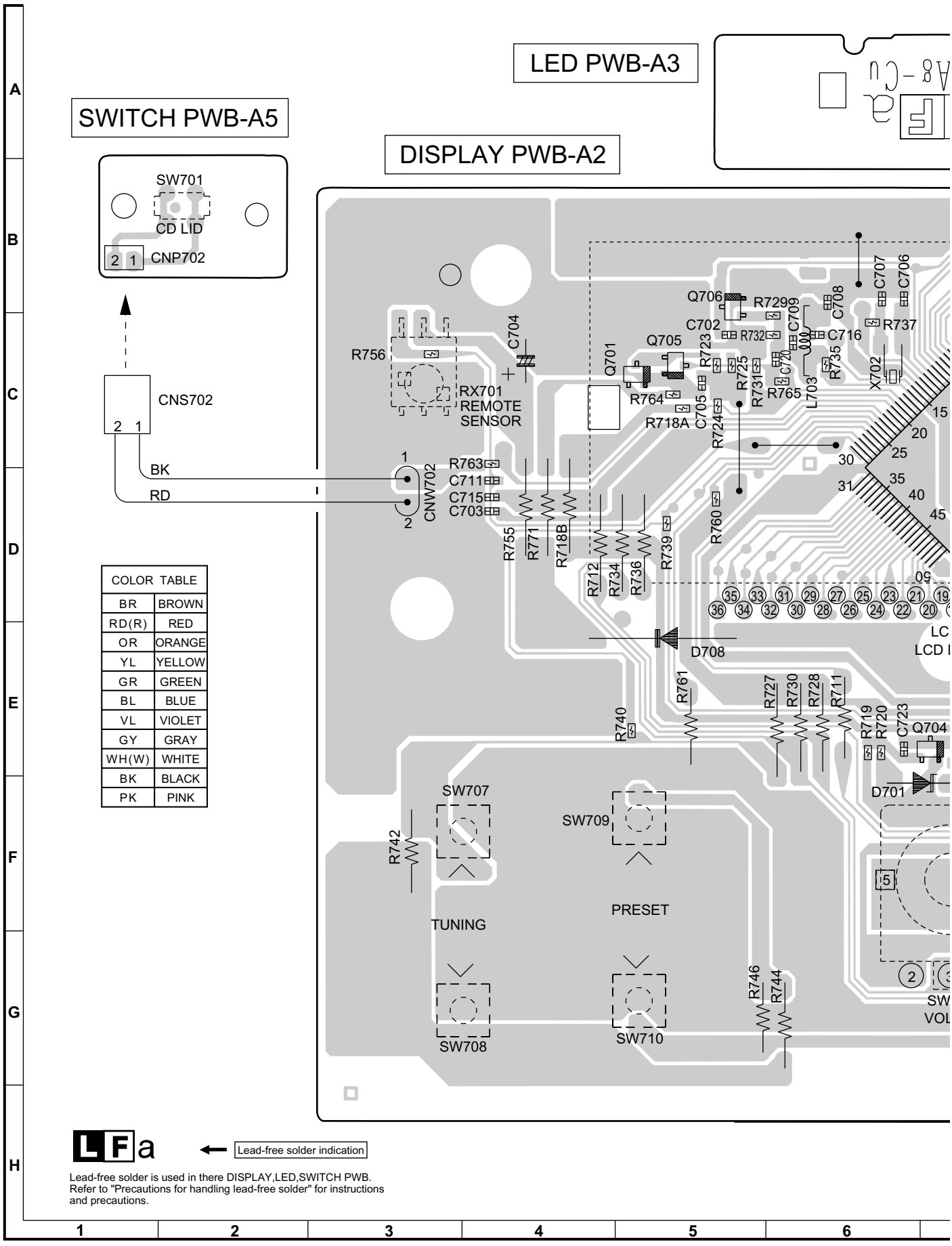
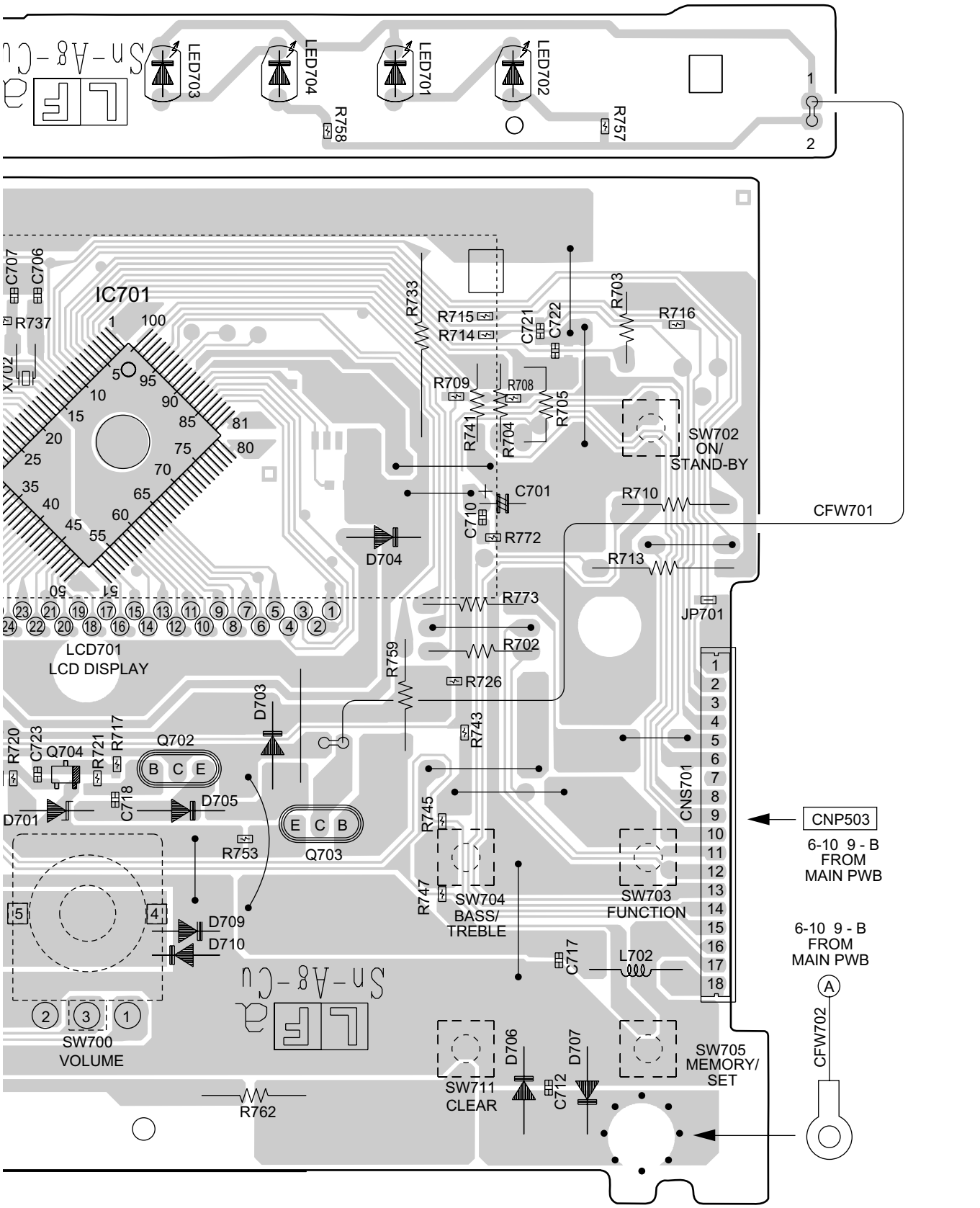


Figure 6-11 WIRING SIDE OF PWB (3/5)



	7	8	9	10	11	12

Figure 6-12 WIRING SIDE OF PWB (4/5)

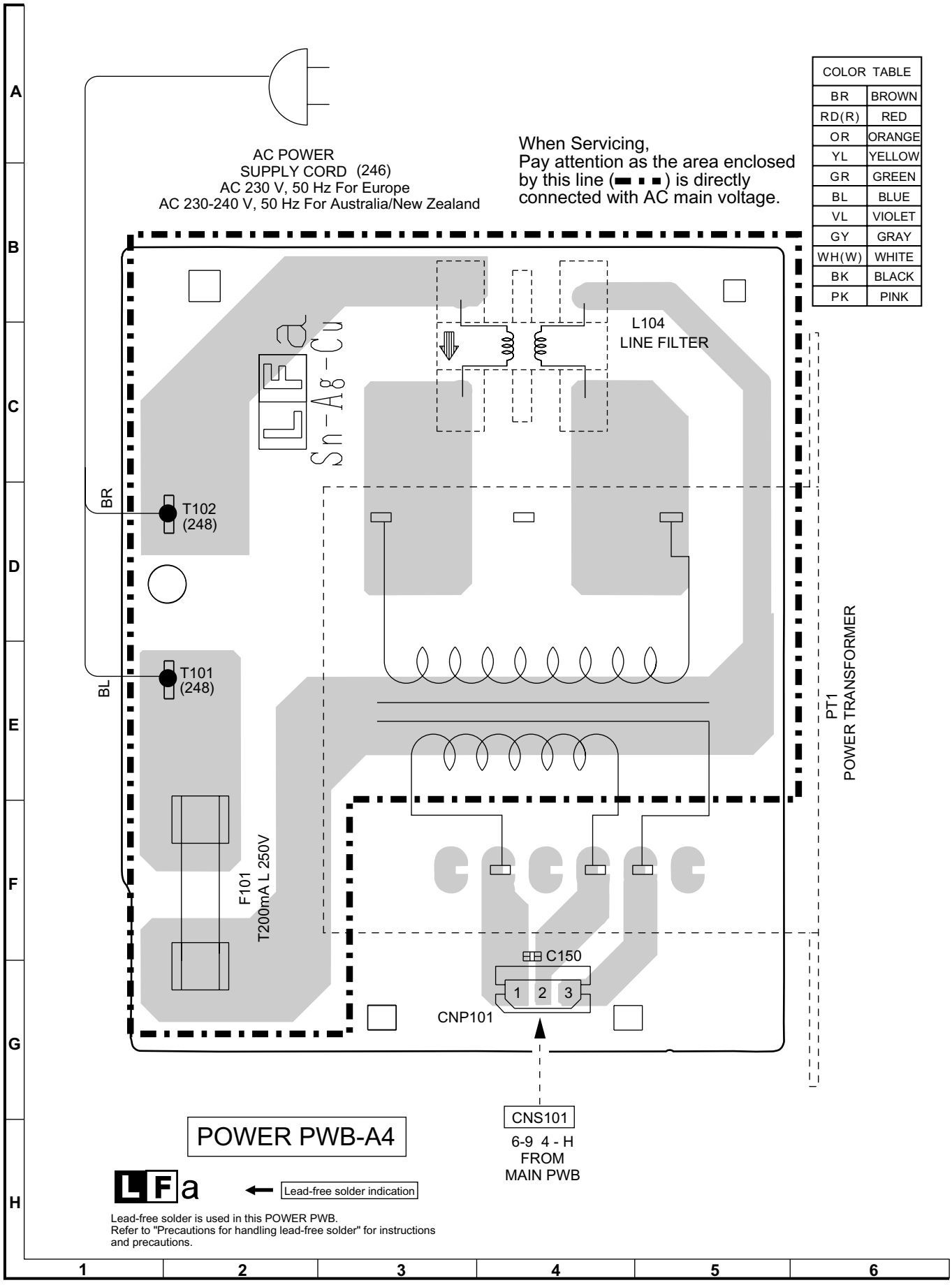


Figure 6-13 WIRING SIDE OF PWB (5/5)

CHAPTER 7. OTHERS

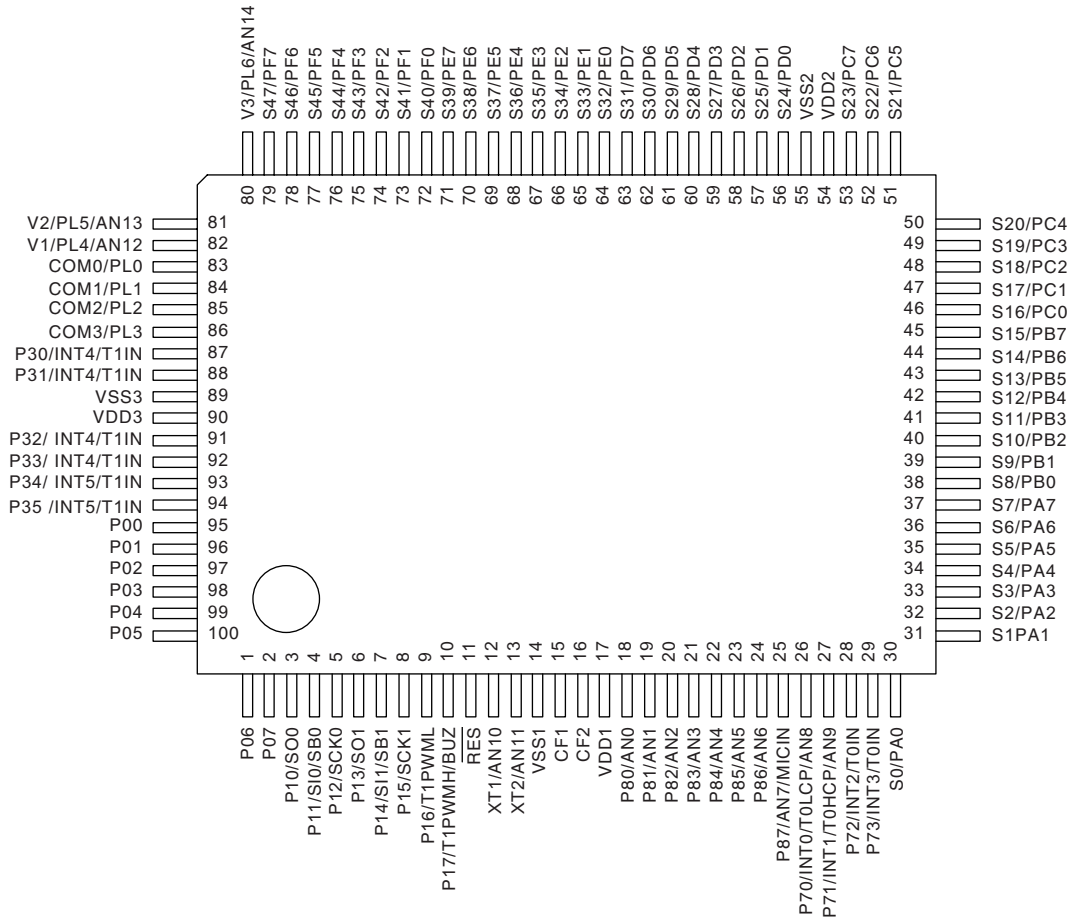
[1] FUNCTION TABLE OF IC

IC701 RH-iXA029SJZZ: System Microcomputer (IXA029SJ)

<table>
<tr><th>Pin No.</th><th>Terminal Name</th><th>Input/Output</th><th>Function</th></tr>
<tr><td>14,55,89</td><td>VSS1, VSS2, VSS3</td><td>-</td><td>• Power supply (-)</td></tr>
<tr><td>17,54,90</td><td>VDD1, VDD2, VDD3</td><td>-</td><td>• Power supply (+)</td></tr>
<tr><td>1,2,95,96, 97*,98*,99, 100</td><td>PORT0 P00 to P07</td><td>Input/Output</td><td>• 8bit input/output port
• Data direction programmable in nibble units
• Use of pull-up resistor can be specified in nibble units
• Input for HOLD release
• Input for port 0 interrupt</td></tr>
<tr><td>3,4,5,6,7, 8,9,10</td><td>PORT1 P10 to P17</td><td>Input/Output</td><td>• 8bit input/output port
• Data direction programmable for each bit
• Use of pull-up resistor can be specified for each bit individually
• Other pin functions
P10 SIO0 data output
P11 SIO0 data input or bus input/output
P12 SIO0 clock input/output
P13 SIO1 data output
P14 SIO1 data input or bus input/output
P15 SIO1 clock input/output
P16: Timer 1 PWML output
P17: Timer 1 PWMH output/Buzzer output</td></tr>
<tr><td>87*,88*,89, 90,91*,92*, 93*,94*</td><td>PORT3 P30 to P35</td><td>Input/Output</td><td>• 6bit Input/output port
• Data direction can be specified for each bit
• Use of pull-up resistor can be specified for each bit individually
• Other functions
P30~P33: INT4 input/HOLD release input/timer1 event input
Timer0L capture input/Timer0H capture input
P34~P35: INT5 input/HOLD release input/timer 1 event input
Timer0L capture input/Timer0H capture input
• Interrupt detection selection
<table>
<tr><th></th><th>Rising</th><th>Falling</th><th>Rising and falling</th><th>H level</th><th>L level</th></tr>
<tr><td>INT4</td><td>Yes</td><td>Yes</td><td>Yes</td><td>NO</td><td>NO</td></tr>
<tr><td>INT5</td><td>Yes</td><td>Yes</td><td>Yes</td><td>NO</td><td>NO</td></tr>
</table></td></tr>
<tr><td>26,27*,28,29</td><td>PORT7 P70 to P73</td><td>Input/Output</td><td>• 4bit Input/output port
• Data direction can be specified for each bit
• Use of pull-up resistor can be specified for each bit individually
• Other functions
P70: INT0 input/HOLD release input/Timer0L capture input/output for watchdog timer
P71: INT1 input/HOLD release input/Timer0H capture input
P72: INT2 input/HOLD release input/timer 0 event input/Timer0L capture input
P72: INT3 input (noise rejection filter attached)/timer 0 event input/Timer0H capture input
AD input port: AN8(P70), AN9(P71)
• Interrupt detection selection
<table>
<tr><th></th><th>Rising</th><th>Falling</th><th>Rising and falling</th><th>H level</th><th>L level</th></tr>
<tr><td>INT0</td><td>Yes</td><td>Yes</td><td>No</td><td>Yes</td><td>Yes</td></tr>
<tr><td>INT1</td><td>Yes</td><td>Yes</td><td>No</td><td>Yes</td><td>Yes</td></tr>
<tr><td>INT2</td><td>Yes</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td></tr>
<tr><td>INT3</td><td>Yes</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td></tr>
</table></td></tr>
<tr><td>18,19,20, 21*,22,23, 24,25</td><td>PORT8 P80 to P87</td><td>Input/Output</td><td>• 8bit Input/output port
• Input/output can be specified for each bit individually
• Other functions:
AD input port: AN0 to AN7
Small signal detector input port: MICIN(P87)</td></tr>
<tr><td>30*,31*,32, 33,34,35,36, 37</td><td>S0/PA0 to S7/ PA7</td><td>Input/Output</td><td>• Segment output for LCD
• Can be used as general purpose input/output port (PA)</td></tr>
<tr><td>38,39,40,41, 42,43,44,45</td><td>S8/PB0 to S15/ PB7</td><td>Input/Output</td><td>• Segment output for LCD
• Can be used as general purpose input/output port (PB)</td></tr>
<tr><td>46,47,48,49, 50,51,52,53</td><td>S16/PC0 to S23/ PC7</td><td>Input/Output</td><td>• Segment output for LCD
• Can be used as general purpose input/output port (PC)</td></tr>
</table>

Pin No.	Terminal Name	Input/Output	Function
56,57,58,59, 60,61,62,63	S24/PD0 to S31/ PD7	Input/Output	• Segment output for LCD • Can be used as general purpose input/output port (PD)
64,65,66*, 67*,68*,69*, 70*,71*	S32/PE0 to S39/ PE7	Input/Output	• Segment output for LCD • Can be used as general purpose input/output port (PE)
72*,73*,74*, 75*,76*,77*, 78*,79*	S40/PF0 to S47/ PF7	Input/Output	• Segment output for LCD • Can be used as general purpose input/output port (PF)
83,84,85,86	COM0/PL0 to COM3/PL3	Input/Output	• Common output for LCD • Can be used as general purpose input port (PL)
80*,81*,82*	V1/PL4 to V3/ PL6	Input/Output	• LCD output bias power supply • Can be used as general purpose input port (PL) • Other functions: AD input ports: AN12 to AN14
11	$\overline{\text{RES}}$	Input	Reset terminal
12	XT1	Input	• Input for 32.768kHz crystal oscillation • Other functions: General purpose input port AD input port: AN10 • When not in use, connect to VDD1
13	XT2	Input/Output	• Output for 32.768kHz crystal oscillation • Other functions: General purpose input port AD input port: AN11 • When not in use, set to oscillation mode and leave open
15	CF1	Input	Input terminal for ceramic oscillator
16	CF2	Output	Output terminal for ceramic oscillator

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

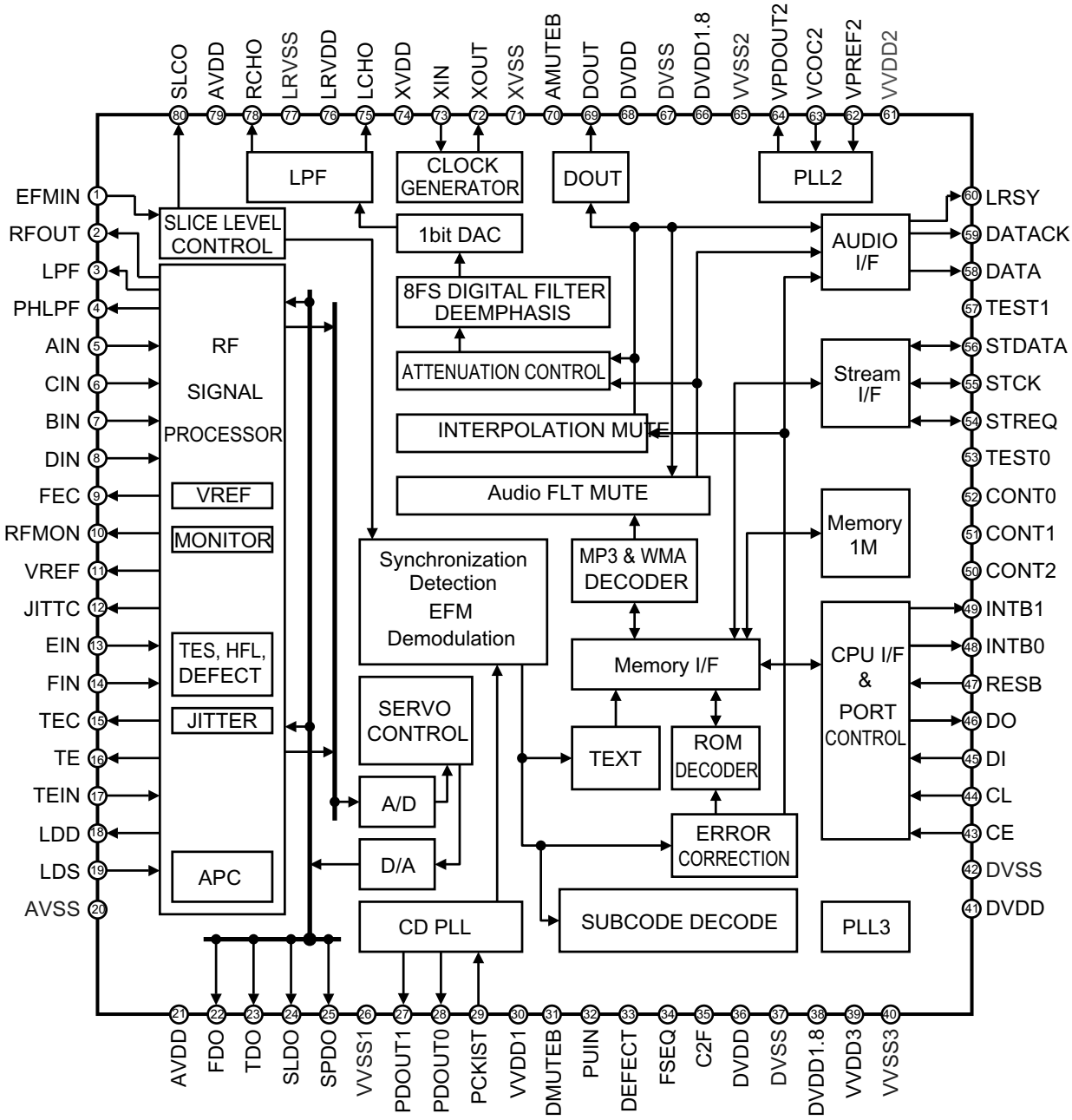


IC801 VHiLC78690/-1: Servo/Signal (LC78690)

Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
1	EFMIN	Input	Input	RF signal input.	
2	RFOUT	Output	Unfix	RF signal output.	
3	LPF	Output	Unfix	To LPF capacitor for detecting DC level of RF signal.	
4	PHLPF	Output	Unfix	To LPF capacitor for detecting scratch.	
5	AIN	Input	Input	A signal input.	
6	CIN	Input	Input	C signal input.	
7	BIN	Input	Input	B signal input.	
8	DIN	Input	Input	D signal input.	
9	FEC	Output	Unfix	To LPF capacitor for FE signal.	
10*	RFMON	Output	Unfix	Monitoring for LSI internal analog signal.	
11	VREF	Output	AVDD/2	VREF voltage output.	
12	JITTC	Output	Unfix	For jitter detection capacitor.	
13	EIN	Input	Input	E signal input.	
14	FIN	Input	Input	F signal input.	
15	TEC	Output	Unfix	To LPF capacitor for TE signal.	
16	TE	Output	Unfix	TE signal output.	
17	TEIN	Input	Input	TE signal input for TES signal generation.	
18	LDD	Output	Unfix	Laser power control signal output.	
19	LDS	Input	Input	Laser power detection signal input.	
20	AVSS	-	-	Analog GND. Connected to 0V.	
21	AVDD	-	-	Analog power supply.	
22	FDO	Output	AVDD/2	Focus control signal output. D/A output.	
23	TDO	Output	AVDD/2	Tracking control signal output. D/A output.	
24	SLDO	Output	AVDD/2	Sled control signal output. D/A output.	
25	SPDO	Output	AVDD/2	Spindle control signal output. D/A output.	
26	VVSS1	-	-	For EFM PLL	GND for built-in VCO. Connected to 0V.
27	PDOUT1	Output	Unfix		Phase comparison output pin 1 for built-in VCO control.
28	PDOUT0	Output	Unfix		Phase comparison output pin 0 for built-in VCO control.
29	PCKIST	Input	Input		To resistance for current setting of PDOUT0, 1 output.
30	VVDD1	-	-		Power supply for built-in VCO
31*	DMUTEB	Output	L	DMUTEB (general-purpose) output	
32	PUIN	Input/Output	Input	PUIN (general-purpose) input/output (Built-in Pull-Up resistance)	
33*	DEFECT	Output	L	Scratch detection signal output	
34*	FSEQ	Output	L	Sync signal output. Switches to "H" when sync signal detected from EFM signal and sync signal generated internally are the same.	
35*	C2F	Output	L	C2 error signal output.	
36	DVDD	-	-	Digital power supply.	
37	DVSS	-	-	Digital GND. Connected to 0V.	
38	DVDD1.8	Output	H	To power supply capacitor for digital circuit.	
39	VVDD3	-	-	Power supply for built-in PLL.	
40	VVSS3	-	-	GND for built-in PLL. Connected to 0V.	
41	DVDD	-	-	Digital power supply.	
42	DVSS	-	-	Digital GND. Connected to 0V.	
43	CE	Input	Input	For micro-processor interface	Enable signal input.
44	CL	Input	Input		Data transfer clock input.
45	DI	Input	Input		Data input
46	DO	Output	(H)		Data output (Tri-state output: Built-in Pull-Up resistance)
47	RESB	Input	-	Reset input for this LSI. Set as "L" when turning power on.	
48*	INTB0	Output	H	Interrupt signal output pin 0 (Servo section)	
49*	INTB1	Output	H	Interrupt signal output pin 1 (Decoder section)	
50	CONT2	Input/Output	Input	General-purpose input/ output pin 2	Controlled by command from microprocessor. When not in use, set as input and connect to 0V, or set as output and leave open.
51*	CONT1	Input/Output	Input	General-purpose input/ output pin 1	
52*	CONT0	Input/Output	Input	General-purpose input/ output pin 0 (Built-in Pull-Up resistance)	
53	TEST0	Input	L	Input for testing. Connected to 0V.	
54	STREQ	Input/Output	Input	Stream data request signal output.	
55	STCK	Input/Output	Input	Bit clock input for stream data.	
56	STDATA	Input/Output	Input	Stream data input.	
57	TEST1	Input	L	Input for testing. Connected to 0V.	
58*	DATA	Output	L	L/R channel data output.	
59*	DATACK	Output	L	Bit clock output	

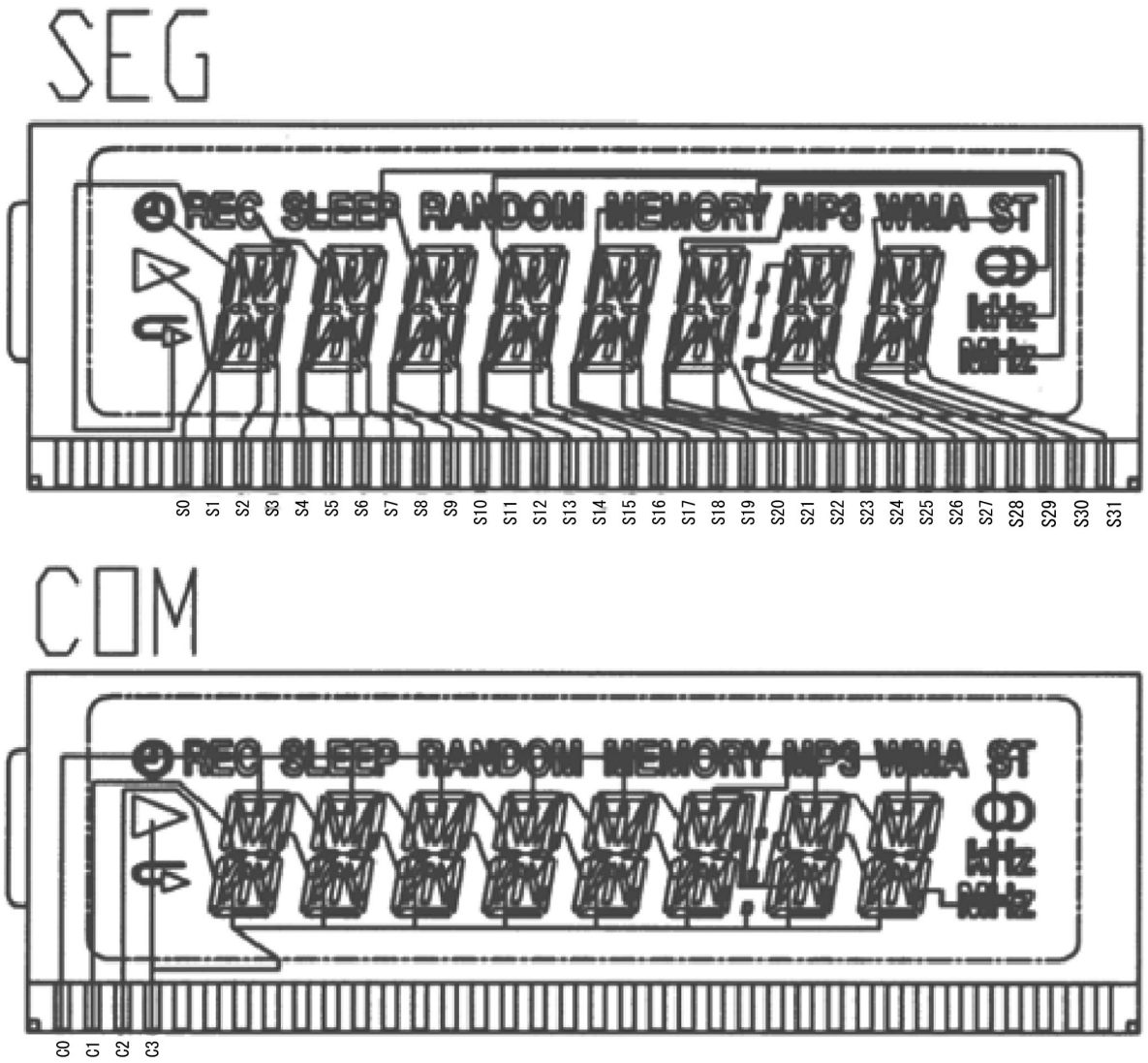
Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
60*	LRSY	Output	L	L/R ch clock output	
61	VVDD2	-	-	For EFM PLL	Power supply for built-in VCO
62	VPREF2	Input	Input		Input for oscillation range setting of built-in VCO.
63	VCOC2	Input	Input		Input for control voltage setting of built-in VCO.
64	VPDOUT2	Output	Unfix		Output for controlling built-in VCO.
65	VVSS2	-	-		GND for built-in VCO. Connected to 0V.
66	DVDD1.8	Output	H	To power supply capacitor for digital circuit.	
67	DVSS	-	-	Digital GND. Connected to 0V.	
68	DVDD	-	-	Digital power supply.	
69*	DOUT	Output	L	Digital OUT output. EIAJ format.	
70*	AMUTEB	Output	L	AMUTEB (general-purpose) output.	
71	XVSS	-	-	Digital GND. Connected to 0V.	
72	XOUT	Output	Oscillator	For crystal oscillation	To 16.9344 MHz oscillator
73	XIN	Input	Oscillator		
74	XVDD	-	-	Digital power supply	
75	LCHO	Output	LRVDD/2	D/A converter	L channel output.
76	LRVDD	-	-		Power supply for LR channel.
77	LRVSS	-	-		GND for LR channel. Connected to 0V.
78	RCHO	Output	LRVDD/2		R channel output.
79	AVDD	-	-	Analog power supply.	
80	SLCO	Output	Unfix	Slice level control output.	

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

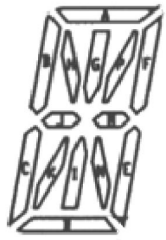

SLCO 80
AVDD 79
RCHO 78
LRVSS 77
LRVDD 76
LCHO 75
XVDD 74
XIN 73
XOUT 72
XVSS 71
AMUTEB 70
DOUT 69
DVDD 68
DVSS 67
DVDD1.8 66
VSS2 65
VPDOUT2 64
VCOC2 63
VPREF2 62
VVDD2 61
EFMIN 1
RFOUT 2
LPF 3
PHLPF 4
AIN 5
CIN 6
BIN 7
DIN 8
FEC 9
RFMON 10
VREF 11
JITTC 12
EIN 13
FIN 14
TEC 15
TE 16
TEIN 17
LDD 18
LDS 19
AVSS 20
LRSY 60
DATACK 59
DATA 58
TEST1 57
STDATA 56
STCK 55
STREQ 54
TEST0 53
CONT0 52
CONT1 51
CONT2 50
INTB1 49
INTB0 48
RESB 47
DO 46
DI 45
CL 44
CE 43
DVSS 42
DVDD 41
AVDD 21
FDO 22
TDO 23
SLDO 24
SPDO 25
VVSS1 26
PDOUT1 27
PDOUT0 28
PCKIST 29
VVDD1 30
DMUTEB 31
PUIN 32
DEFECT 33
FSEQ 34
C2F 35
DVDD 36
DVSS 37
DVDD1.8 38
VVDD3 39
VVSS3 40
LPF
CLOCK GENERATOR
DOUT
PLL2
SLICE LEVEL CONTROL
1bit DAC
AUDIO I/F
8FS DIGITAL FILTER DEEMPHASIS
RF SIGNAL PROCESSOR
ATTENUATION CONTROL
Stream I/F
INTERPOLATION MUTE
Audio FLT MUTE
VREF
MONITOR
Memory 1M
Synchronization Detection EFM Demodulation
MP3 & WMA DECODER
TES, HFL, DEFECT
Memory I/F
CPU I/F & PORT CONTROL
JITTER
SERVO CONTROL
TEXT
ROM DECODER
A/D
ERROR CORRECTION
D/A
APC
CD PLL
SUBCODE DECODE
PLL3

[2] LCD DISPLAY

RV-LXA004SJZZ


SEG
REC SLEEP RANDOM MEMORY MP3 WMA ST
S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31
COM
REC SLEEP RANDOM MEMORY MP3 WMA ST
C0 C1 C2 C3

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
COM0	COM0	/	/	/	◎	1H	1G	1A	REC	2H	2G	2A	SLEEP	3H	3G	3A	RANDOM	4H
COM1	/	COM1	/	/	1B	1J	1N	1P	2B	2J	2N	2P	3B	3J	3N	3P	4B	4J
COM2	/	/	COM2	/	1C	1I	1M	1F	2C	2I	2M	2F	3C	3I	3M	3F	4C	4I
COM3	/	/	/	COM3	▷	1K	1D	1E	⊂	2K	2D	2E	MHz	3K	3D	3E	kHz	4K
PIN	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
COM0	4G	4A	MEMORY	5H	5G	5A	MP3	6H	6G	6A	6R	7H	7G	7A	WMA	8H	8G	8A
COM1	4N	4P	5B	5J	5N	5P	6B	6J	6N	6P	7B	7J	7N	7P	8B	8J	8N	8P
COM2	4M	4F	5C	5I	5M	5F	6C	6I	6M	6F	7C	7I	7M	7F	8C	8I	8M	8F
COM3	4D	4E	◎	5K	5D	5E	/	6K	6D	6E	6Q	7K	7D	7E	ST	8K	8D	8E



SHARP PARTS GUIDE

MICRO COMPONENT SYSTEM

MODEL XL-MP10H

XL-MP10H Micro Component System consisting of XL-MP10H (main unit) and CP-S10H (speaker system).

CONTENTS

[1] INTEGRATED CIRCUITS

[2] TRANSISTORS

[3] DIODES

[4] FILTERS

[5] TRANSFORMERS

[6] COILS

[7] VIBRATORS

[8] CAPACITORS

[9] RESISTORS

[10] OTHER CIRCUITRY PARTS

[11] CABINET PARTS

[12] SPEAKER BOX PARTS

[13] ACCESSORIES/PACKING PARTS

[14] P.W.B. ASSEMBLY (Not Replacement Item)

[15] OTHER SERVICE PARTS

■ INDEX

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
	[1] INTEGRATED CIRCUITS					
	iC101	VHiLA4631++-1	AM			Power Amp.,LA4631++
	iC301	VHiLV23002M-1	AS			FM FRONT END/PLL (Tuner)/FM IF Det./FM Mpx./AM IF,
	iC501	VHiBD3881FV-1	AP			Record/Playback Amp.,BD3881FV
	iC701	RH-iXA029SJZZ	AY			System Microcomputer,IXA029SJ
	iC801	VHiLC78690/-1				Servo/Signal,LC78690
	iC802	VHiLA6548ND-1	AL			Focus/Tracking/Spin/Sled Driver,LA6548ND
	[2] TRANSISTORS					
	Q101	VS2SB1370E+-1	AG			Silicon,PNP,2SB1370 E+
	Q102	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q103	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q104	VS2HC1815GR-1	AB			Silicon,NPN,2HC1815 GR
	Q301	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q302	VS2SC5477++-1	AD			Silicon,NPN,2SC5477++
	Q371	VS2SC5477++-1	AD			Silicon,NPN,2SC5477++
	Q502	VS2SC5395F+-1	AD			Silicon,NPN,2SC5395 F+
	Q503	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q701	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q702	VS2SC5395F+-1	AD			Silicon,NPN,2SC5395 F+
	Q703	VS2SC5395F+-1	AD			Silicon,NPN,2SC5395 F+
	Q704	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q705	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q706	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q801	VS2SA1235F+-1	AD			Silicon,PNP,2SA1235 F+
	Q802	VSKTC3200GR-1	AC			Silicon,NPN,KTC3200 GR
	Q805	VS2SC3052F+-1	AD			Silicon,NPN,2SC3052 F+
	Q808	VS2HC1815GR-1	AB			Silicon,NPN,2HC1815 GR
	Q809	VS2SB562-C/-1	AD			Silicon,PNP,2SB562 C
	Q810	VS2SB562-C/-1	AD			Silicon,PNP,2SB562 C
	[3] DIODES					
⚠	D101	VHD1N5395//-1				Silicon,1N5395
⚠	D102	VHD1N5395//-1				Silicon,1N5395
⚠	D103	VHD1N5395//-1				Silicon,1N5395
⚠	D104	VHD1N5395//-1				Silicon,1N5395
	D105	VHD1SS133//-1	AA			Silicon,1SS133
	D106	VHEMTZJ6R8B-1	AC			Zener,6.8V,MTZJ6.8B
	D107	VHD1N4148//-1	AA			Silicon,1N4148
	D108	VHD1N4148//-1	AA			Silicon,1N4148
	D109	VHD1N4148//-1	AA			Silicon,1N4148
	D110	VHD1N4148//-1	AA			Silicon,1N4148
	D111	VHD1N4148//-1	AA			Silicon,1N4148
	D112	VHD1N4148//-1	AA			Silicon,1N4148
	D302	VHD1SS133//-1	AA			Silicon,1SS133
	D303	VHD1SS133//-1	AA			Silicon,1SS133
	D305	VHCSVC347S/-1	AG			Variable Capacitance,SVC347S
	D306	VHCSVC201//-1	AE			Variable Capacitance,SVC201
	D307	VHCSVC201//-1	AE			Variable Capacitance,SVC201
	D308	VHEMTZJ3R6B-1	AC			Zener,3.6V,MTZJ3.6B
	D309	VHEMTZJ120B-1	AC			Zener,12V,MTZJ12B
	D310	VHD1N4148//-1	AA			Silicon,1N4148
	D311	VHD1N4148//-1	AA			Silicon,1N4148
	D501	VHD1SS133//-1	AA			Silicon,1SS133
	D701	VHEDZH06B1+-1				Zener,DZH06B1+
	D703	VHD1SS133//-1	AA			Silicon,1SS133
	D704	VHD1SS133//-1	AA			Silicon,1SS133
	D705	VHD1N4148//-1	AA			Silicon,1N4148
	D706	VHD1N4148//-1	AA			Silicon,1N4148
	D707	VHD1N4148//-1	AA			Silicon,1N4148
	D708	VHD1N4148//-1	AA			Silicon,1N4148
	D709	VHD1N4148//-1	AA			Silicon,1N4148
	D710	VHD1N4148//-1	AA			Silicon,1N4148
	D801	VHD1N4148//-1	AA			Silicon,1N4148
	D802	VHD1N4148//-1	AA			Silicon,1N4148
	D803	VHD1N4148//-1	AA			Silicon,1N4148
	LED701	VHPMPG3372X-V	AD			LED,Green,MPG3372X
	LED702	VHPMPG3372X-V	AD			LED,Green,MPG3372X
	LED703	VHPMPG3372X-V	AD			LED,Green,MPG3372X
	LED704	VHPMPG3372X-V	AD			LED,Green,MPG3372X
	ZD801	VHEDZH05C2+-1	AB			Zener,5.1V,DZH05C2+
	ZD802	VHEDZH04B2+-1	AB			Zener,3.9V,DZH04B2+
	[4] FILTERS					
	CF301	RFiLFA001SJZZ	AE			FM IF
	CF302	RFiLF0003AWZZ	AK			FM IF
	CF303	RFiLA0003SJZZ	AF			AM IF
	CF304	RFiLFA001SJZZ	AE			FM IF
	CF306	RFiLRA001SJZZ				Band Pass Filter
	[5] TRANSFORMERS					
⚠	PT1	RTRNPA030SJZZ	AW			Power

	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
	[6] COILS					
	L101	VP-DH1R0K0000	AC			1 μH
	L102	RCiLZA001SJZZ	AC			Line Filter
	L103	RCiLZA001SJZZ	AC			Line Filter
⚠	L104	RCiLZ0005SJZZ	AF			Line Filter
	L301	VP-DH1R0K0000	AC			1 μH
	L302	RCiLAA002SJZZ				AM Antenna
	L303	VP-DH100K0000	AB			10 μH,Choke
	L304	RCiLRA001SJZZ	AA			FM RF
	L305	RCiLiA001SJZZ	AC			AM IF
	L306	RCiLBA006SJZZ				AM OSC.
	L307	RCiLBA005SJZZ	AD			FM OSC.
	L308	VP-DH470K0000	AB			47 μH,Choke
	L501	RCiLBA001SJZZ	AE			BIAS OSC.
	L502	VP-DHR82K0000	AE			0.82 μH,Choke
	L702	VP-DH2R2K0000	AB			2.2 μH,Peaking
	L703	VP-DH220K0000	AB			22 μH,Choke
	L802	VP-DHR82K0000	AE			0.82 μH,Choke
	L803	VP-DHR82K0000	AE			0.82 μH,Choke
	L804	VP-DHR82K0000	AE			0.82 μH,Choke
	L805	RBLN-A003SJZZ	AB			Ferrite Bead,1 kohms
	L806	RBLN-A003SJZZ	AB			Ferrite Bead,1 kohms
	[7] VIBRATORS					
	X301	RCRSPA006SJZZ	AF			Crystal,75 kHz
	X702	RCRSP0007SJZZ	AE			Crystal,32.768 kHz
	X801	RCRSP0002SJZZ	AL			Crystal,16.93 MHz
	[8] CAPACITORS					
	C101	VCKYCY1EF473Z	AB			0.047 μF,25V
	C102	VCKYCY1HB472K	AA			0.0047 μF,50V
	C103	VCKYCY1HB472K	AA			0.0047 μF,50V
	C104	VCKYCY1EF104Z	AA			0.1 μF,25V
	C105	VCKYCY1EF104Z	AA			0.1 μF,25V
	C106	VCKYCY1HB472K	AA			0.0047 μF,50V
	C107	VCKYCY1HB472K	AA			0.0047 μF,50V
	C108	VCKYCY1EF104Z	AA			0.1 μF,25V
	C109	VCKYCY1EF104Z	AA			0.1 μF,25V
	C111	VCKYPA1HB331K	AA			330 pF,50V
	C112	VCKYCY1HB331K	AA			330 pF,50V
⚠	C113	VCKYCY1EF104Z	AA			0.1 μF,25V
⚠	C114	VCKYCY1EF104Z	AA			0.1 μF,25V
	C115	RC-GZV108AF1E	AD			1000 μF,25V,Electrolytic
	C116	RC-GZV108AF1E	AD			1000 μF,25V,Electrolytic
	C117	RC-GZA226AF1H	AB			22 μF,50V,Electrolytic
	C118	RC-GZW338AF1E	AG			3300 μF,25V,Electrolytic
	C119	RC-GZA107AF1C	AB			100 μF,16V,Electrolytic
	C120	VCKYCY1EF104Z	AA			0.1 μF,25V
	C121	RC-GZA475AF1H	AB			4.7 μF,50V,Electrolytic
	C123	RC-GZA105AF1H	AB			1 μF,50V,Electrolytic
	C124	VCKYCY1HB103K	AA			0.01 μF,50V
	C125	RC-GZA105AF1H	AB			1 μF,50V,Electrolytic
	C126	VCKYCY1HB222K	AA			0.0022 μF,50V
	C127	VCKYCY1HB222K	AA			0.0022 μF,50V
	C128	VCKYCY1EF104Z	AA			0.1 μF,25V
	C129	RC-GZA227AF1C	AB			220 μF,16V,Electrolytic
	C130	VCKYCY1HB472K	AA			0.0047 μF,50V
	C131	VCKYCY1HB472K	AA			0.0047 μF,50V
	C132	VCKYCY1HB472K	AA			0.0047 μF,50V
	C133	VCKYCY1HB222K	AA			0.0022 μF,50V
	C134	VCKYCY1HB222K	AA			0.0022 μF,50V
	C140	RC-GZA475AF1H	AB			4.7 μF,50V,Electrolytic
⚠	C150	VCKYPA1HF472Z	AB			0.0047 μF,50V
	C301	VCKYCY1HB102K	AA			0.001 μF,50V
	C302	RC-GZA226AF1H	AB			22 μF,50V,Electrolytic
	C303	VCKYCY1EF104Z	AA			0.1 μF,25V
	C305	VCCCPA1HH120J	AA			12 pF (CH),50V
	C306	VCKYCY1HB103K	AA			0.01 μF,50V
	C307	VCCUPA1HJ7R0D	AA			7 pF (UJ),50V
	C308	VCKYCY1EB183K	AB			0.018 μF,25V
	C309	VCKYPA1HB102J	AA			1000 pF,50V
	C310	VCCCPA1HH270J	AA			27 pF (CH),50V
	C311	VCCSPA1HL561J	AA			560 pF,50V
	C312	VCKYCY1EF104Z	AA			0.1 μF,25V
	C313	VCKYCY1EF104Z	AA			0.1 μF,25V
	C314	VCKYCY1HB103K	AA			0.01 μF,50V
	C315	RC-GZA107AF1H	AC			100 μF,50V,Electrolytic
	C316	VCCUPA1HJ330D	AA			33 pF (UJ),50V
	C317	VCKYPA1HB102J	AA			1000 pF,50V
	C318	VCKYCY1HB103K	AA			0.01 μF,50V
	C319	RC-GZA105AF1H	AB			1 μF,50V,Electrolytic
	C320	VCCCCY1HH101J	AA			100 pF (CH),50V
	C321	RC-GZA334AF1H	AA			0.33 μF,50V,Electrolytic
	C322	RC-GZA105AF1H	AB			1 μF,50V,Electrolytic
	C323	RC-GZA474AF1H	AA			0.47 μF,50V,Electrolytic
	C324	RC-GZA105AF1H	AB			1 μF,50V,Electrolytic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] CAPACITORS					
C325	RC-GZA226AF1H	AB			22 μ F,50V,Electrolytic
C326	VCKYCY1EF104Z	AA			0.1 μ F,25V
C327	VCKYCY1HB103K	AA			0.01 μ F,50V
C328	RC-GZA105AF1H	AB			1 μ F,50V,Electrolytic
C329	VCKYCY1HB223K	AA			0.022 μ F,50V
C330	RC-GZA226AF1H	AB			22 μ F,50V,Electrolytic
C331	VCKYCY1HB103K	AA			0.01 μ F,50V
C332	VCKYCY1HB102K	AA			0.001 μ F,50V
C333	RC-GZA475AF1H	AB			4.7 μ F,50V,Electrolytic
C334	VCKYCY1HB101K	AB			100 pF,50V
C335	RC-GZA226AF1H	AB			22 μ F,50V,Electrolytic
C336	VCKYCY1HB101K	AB			100 pF,50V
C337	VCKYCY1HB101K	AB			100 pF,50V
C338	VCKYCY1EF104Z	AA			0.1 μ F,25V
C339	VCKYCY1EB104K	AD			0.1 μ F,25V
C340	VCKYCY1EF104Z	AA			0.1 μ F,25V
C341	VCCCCY1HH100J	AA			10 pF (CH),50V
C342	VCCCCY1HH100J	AA			10 pF (CH),50V
C343	VCCCCY1HH5R0C	AA			5 pF (CH),50V
C344	VCCUPA1HJ330D	AA			33 pF (UJ),50V
C345	VCKYPA1HB5R0J	AA			5 pF,50V
C351	VCKYCY1HB223K	AA			0.022 μ F,50V
C371	VCKYCY1EF103Z	AA			0.01 μ F,25V
C372	VCKYCY1EF104Z	AA			0.1 μ F,25V
C399	VCKYCY1HB472K	AA			0.0047 μ F,50V
C501	RC-GZA476AF1E	AB			47 μ F,25V,Electrolytic
C502	RC-GZA227AF0J	AB			220 μ F,6.3V,Electrolytic
C503	VCKYCY1EB104K	AD			0.1 μ F,25V
C504	VCKYCY1EB104K	AD			0.1 μ F,25V
C505	RC-GZA476AF1E	AB			47 μ F,25V,Electrolytic
C506	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C507	VCCCCY1HH100J	AA			10 pF (CH),50V
C508	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C509	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C510	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C511	VCKYCY1HB103K	AA			0.01 μ F,50V
C512	VCKYCY1HB272K	AA			0.0027 μ F,50V
C513	VCKYCY1HB103K	AA			0.01 μ F,50V
C514	VCKYCY1HB272K	AA			0.0027 μ F,50V
C515	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C516	RC-GZA224AF1H	AA			0.22 μ F,50V,Electrolytic
C517	RC-GZA227AF1C	AB			220 μ F,16V,Electrolytic
C518	VCKYCY1HB103K	AA			0.01 μ F,50V
C519	VCKYCY1HB471K	AA			470 pF,50V
C520	VCKYCY1HB471K	AA			470 pF,50V
C521	VCCCCY1HH470J	AA			47 pF (CH),50V
C522	VCKYCY1EF104Z	AA			0.1 μ F,25V
C523	VCQYKA1HM562J	AA			0.0056 μ F,50V,Mylar
C524	VCCCCY1HH470J	AA			47 pF (CH),50V
C525	VCKYCY1HB122K	AA			0.0012 μ F,50V
C526	VCKYCY1HB122K	AA			0.0012 μ F,50V
C527	VCKYCY1HB103K	AA			0.01 μ F,50V
C528	VCKYCY1HB103K	AA			0.01 μ F,50V
C529	VCKYCY1HB821K	AA			820 pF,50V
C530	VCKYCY1HB821K	AA			820 pF,50V
C531	VCKYCY1HB153K	AA			0.015 μ F,50V
C532	VCKYCY1HB153K	AA			0.015 μ F,50V
C533	RC-GZA107AF1V	AB			100 μ F,35V,Electrolytic
C534	RC-GZA107AF1V	AB			100 μ F,35V,Electrolytic
C535	RC-GZA476AF1E	AB			47 μ F,25V,Electrolytic
C701	RC-GZA227AF1A	AB			220 μ F,10V,Electrolytic
C702	VCKYCY1HB473K	AB			0.047 μ F,50V
C703	VCKYCY1HB102K	AA			0.001 μ F,50V
C704	RC-GZA336AF1C	AB			33 μ F,16V,Electrolytic
C705	VCKYCY1EF104Z	AA			0.1 μ F,25V
C706	VCCCCY1HH180J	AA			18 pF (CH),50V
C707	VCCCCY1HH180J	AA			18 pF (CH),50V
C708	VCCCCY1HH150J	AA			15 pF (CH),50V
C709	VCCCCY1HH150J	AA			15 pF (CH),50V
C710	VCKYCY1EF104Z	AA			0.1 μ F,25V
C711	VCKYCY1HB102K	AA			0.001 μ F,50V
C712	VCKYCY1HB472K	AA			0.0047 μ F,50V
C715	VCKYCY1HB102K	AA			0.001 μ F,50V
C716	VCCCCY1HH151J	AA			150 pF (CH),50V
C717	VCKYCY1EF104Z	AA			0.1 μ F,25V
C718	VCKYCY1EF104Z	AA			0.1 μ F,25V
C720	VCKYCY1HB103K	AA			0.01 μ F,50V
C721	VCKYCY1EB101K	AA			100 pF,25V
C722	VCKYCY1EB101K	AA			100 pF,25V
C723	VCKYCY1HB103K	AA			0.01 μ F,50V
C801	VCKYCY1EF104Z	AA			0.1 μ F,25V
C802	RC-GZA336AF1C	AB			33 μ F,16V,Electrolytic
C803	VCKYCY1EF104Z	AA			0.1 μ F,25V
C804	VCKYCY1EF104Z	AA			0.1 μ F,25V
C805	RC-GZA477AF1C	AC			470 μ F,16V,Electrolytic

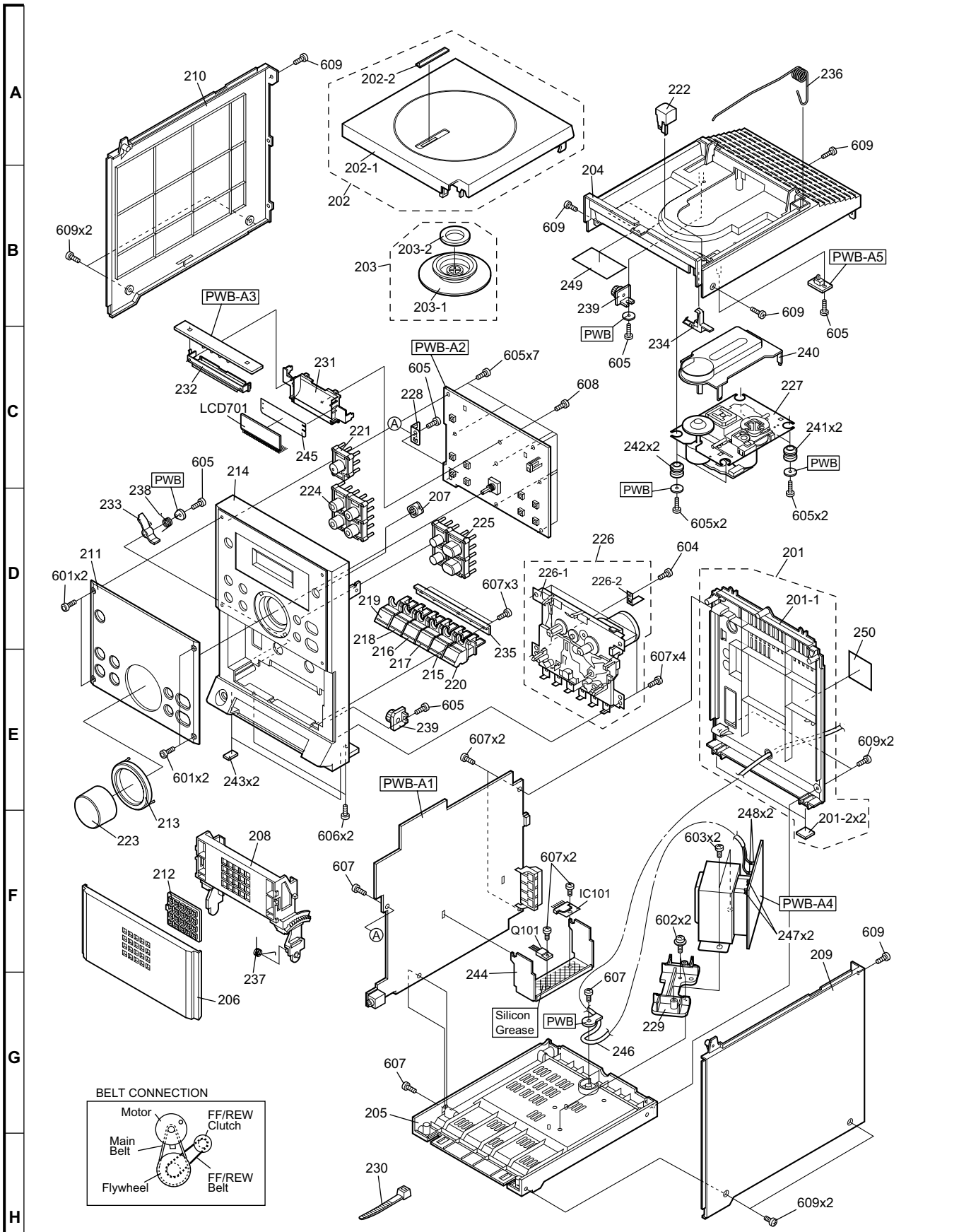
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] CAPACITORS					
C806	VCKYCY1EF104Z	AA			0.1 μ F,25V
C807	RC-GZA107AF1C	AB			100 μ F,16V,Electrolytic
C808	VCKYCY1EF104Z	AA			0.1 μ F,25V
C809	VCKYCY1HB102K	AA			0.001 μ F,50V
C810	RC-GZA474AF1C	AB			0.47 μ F,16V,Electrolytic
C811	VCKYCY1EF104Z	AA			0.1 μ F,25V
C812	VCKYCY1EF473Z	AB			0.047 μ F,25V
C813	VCKYCY1EF103Z	AA			0.01 μ F,25V
C814	VCKYCY1EF473Z	AB			0.047 μ F,25V
C815	VCKYPA1HB563K	AC			0.056 μ F,50V
C816	RC-GZA107AF1C	AB			100 μ F,16V,Electrolytic
C817	VCKYCY1EF103Z	AA			0.01 μ F,25V
C818	VCKYCY1EB563K	AD			0.056 μ F,25V
C819	VCKYCY1EF104Z	AA			0.1 μ F,25V
C820	VCKYCY1EF103Z	AA			0.01 μ F,25V
C821	VCKYCY1HB472K	AA			0.0047 μ F,50V
C822	RC-GZA107AF1C	AB			100 μ F,16V,Electrolytic
C823	RC-GZA106AF1C	AB			10 μ F,16V,Electrolytic
C824	RC-GZA106AF1C	AB			10 μ F,16V,Electrolytic
C825	RC-GZA105AF1C	AB			1 μ F,16V,Electrolytic
C826	VCKYCY1EF473Z	AB			0.047 μ F,25V
C827	VCKYCY1EF104Z	AA			0.1 μ F,25V
C828	VCKYCY1EF104Z	AA			0.1 μ F,25V
C829	VCCCCY1HH100J	AA			10 pF (CH),50V
C830	VCKYCY1HB104K	AD			0.1 μ F,50V
C831	VCCCCY1HH100J	AA			10 pF (CH),50V
C832	VCKYCY1HB104K	AD			0.1 μ F,50V
C833	VCKYCY1HB104K	AD			0.1 μ F,50V
C834	RC-GZA105AF1C	AB			1 μ F,16V,Electrolytic
C835	VCKYCY1HB104K	AD			0.1 μ F,50V
C836	RC-EZD107AF1C	AC			100 μ F,16V,Electrolytic
C837	RC-EZD107AF1C	AC			100 μ F,16V,Electrolytic
C838	RC-GZA107AF1C	AB			100 μ F,16V,Electrolytic
C839	VCKYCY1HB104K	AD			0.1 μ F,50V
C840	VCKYCY1HB104K	AD			0.1 μ F,50V
C841	VCKYCY1HB104K	AD			0.1 μ F,50V
C842	VCKYPA1HB101K	AA			100 pF,50V
C843	VCKYPA1HB101K	AA			100 pF,50V
C845	VCCSCY1HL101J	AA			100 pF,50V
C846	VCCSCY1HL101J	AA			100 pF,50V
C847	VCKYPA1HB101K	AA			100 pF,50V
C848	RC-GZA477AF1C	AC			470 μ F,16V,Electrolytic
C849	VCKYCY1EF104Z	AA			0.1 μ F,25V
C850	RC-GZA477AF1C	AC			470 μ F,16V,Electrolytic
C851	VCKYCY1EF104Z	AA			0.1 μ F,25V
C852	VCKYCY1EF104Z	AA			0.1 μ F,25V
C853	RC-GZA477AF1C	AC			470 μ F,16V,Electrolytic
C854	VCKYCY1HB562K	AA			0.0056 μ F,50V
C855	RC-GZA106AF1C	AB			10 μ F,16V,Electrolytic
C856	RC-GZA106AF1C	AB			10 μ F,16V,Electrolytic
[9] RESISTORS					
JP701	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
JP801	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
JP802	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
JR302	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
JR303	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
JR304	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
R101	VRD-ST2CD271J	AA			270 ohms,1/6W
R102	VRD-ST2CD271J	AA			270 ohms,1/6W
R103	VRD-ST2CD100J	AA			10 ohm,1/6W
R104	VRD-ST2CD100J	AA			10 ohm,1/6W
R106	VRD-ST2CD100J	AA			10 ohm,1/6W
R107	VRD-ST2CD100J	AA			10 ohm,1/6W
R109	VRS-CY1JB101J	AA			100 ohm,1/16W
R110	VRS-CY1JB152J	AA			1.5 kohms,1/16W
R111	VRS-CY1JB681J	AA			680 ohms,1/16W
R112	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R113	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R114	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R115	VRS-CY1JB122J	AA			1.2 kohms,1/16W
R116	VRS-CY1JB333J	AA			33 kohms,1/16W
R117	VRS-CY1JB333J	AA			33 kohms,1/16W
R118	VRS-CY1JB101J	AA			100 ohm,1/16W
R119	VRS-CY1JB563J	AA			56 kohms,1/16W
R120	VRS-CY1JB562J	AA			5.6 kohms,1/16W
R121	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R122	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R131	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R132	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R302	VRD-ST2CD100J	AA			10 ohm,1/6W
R303	VRD-ST2CD104J	AA			100 kohm,1/6W
R304	VRS-CY1JB104J	AA			100 kohm,1/16W
R305	VRS-CY1JB104J	AA			100 kohm,1/16W
R306	VRS-CY1JB100J	AA			10 ohm,1/16W

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[9] RESISTORS					
R307	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R308	VRS-CY1JB102J	AA			1 kohm,1/16W
R309	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
R310	VRD-ST2CD104J	AA			100 kohm,1/6W
R311	VRD-ST2CD102J	AA			1 kohm,1/6W
R312	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R313	VRS-CY1JB103J	AA			10 kohm,1/16W
R314	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R315	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R316	VRS-CY1JB103J	AA			10 kohm,1/16W
R317	VRS-CY1JB473J	AA			47 kohms,1/16W
R318	VRS-CY1JB473J	AA			47 kohms,1/16W
R319	VRS-CY1JB104J	AA			100 kohm,1/16W
R320	VRS-CY1JB473J	AA			47 kohms,1/16W
R321	VRS-CY1JB102J	AA			1 kohm,1/16W
R322	VRD-ST2CD104J	AA			100 kohm,1/6W
R323	VRD-ST2CD391J	AA			390 ohms,1/6W
R324	VRS-CY1JB102J	AA			1 kohm,1/16W
R325	VRD-ST2CD470J	AA			47 ohms,1/6W
R326	VRS-CY1JB473J	AA			47 kohms,1/16W
R327	VRS-CY1JB221J	AA			220 ohms,1/16W
R328	VRS-CY1JB104J	AA			100 kohm,1/16W
R329	VRS-CY1JB331J	AA			330 ohms,1/16W
R371	VRS-CY1JB330J	AA			33 ohms,1/16W
R372	VRS-CY1JB331J	AA			330 ohms,1/16W
R374	VRD-ST2CD101J	AA			100 ohm,1/6W
R375	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R376	VRS-CY1JB681J	AA			680 ohms,1/16W
R501	VRD-ST2EE100J	AA			10 ohm,1/4W
R502	VRD-ST2CD222J	AA			2.2 kohms,1/6W
R503	VRD-ST2EE100J	AA			10 ohm,1/4W
R504	VRS-CY1JB334J	AA			330 kohms,1/16W
R505	VRS-CY1JB223J	AA			22 kohms,1/16W
R506	VRD-ST2CD101J	AA			100 ohm,1/6W
R507	VRS-CY1JB334J	AA			330 kohms,1/16W
R508	VRS-CY1JB223J	AA			22 kohms,1/16W
R509	VRS-CY1JB182J	AA			1.8 kohms,1/16W
R510	VRS-CY1JB182J	AA			1.8 kohms,1/16W
R512	VRS-CY1JB183J	AA			18 kohms,1/16W
R516	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R517	VRS-CY1JB8R2J	AA			8.2 ohms,1/16W
R518	VRS-CY1JB123J	AA			12 kohms,1/16W
R519	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R520	VRS-CY1JB123J	AA			12 kohms,1/16W
R521	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R523	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R525	VRD-ST2CD102J	AA			1 kohm,1/6W
R526	VRD-ST2CD102J	AA			1 kohm,1/6W
R527	VRS-CY1JB101J	AA			100 ohm,1/16W
R528	VRS-CY1JB153J	AA			15 kohms,1/16W
R529	VRS-CY1JB101J	AA			100 ohm,1/16W
R530	VRS-CY1JB153J	AA			15 kohms,1/16W
R531	VRD-ST2CD331J	AA			330 ohms,1/6W
R532	VRD-ST2CD223J	AA			22 kohms,1/6W
R533	VRS-CY1JB394J	AA			390 kohms,1/16W
R534	VRS-CY1JB203J	AA			20 kohms,1/16W
R535	VRS-CY1JB394J	AA			390 kohms,1/16W
R536	VRS-CY1JB203J	AA			20 kohms,1/16W
R537	VRS-CY1JB473J	AA			47 kohms,1/16W
R538	VRS-CY1JB473J	AA			47 kohms,1/16W
R539	VRD-ST2CD103J	AA			10 kohm,1/6W
R540	VRD-ST2CD562J	AA			5.6 kohms,1/6W
R541	VRS-CY1JB121J	AA			120 ohms,1/16W
R542	VRS-CY1JB121J	AA			120 ohms,1/16W
R543	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R545	VRD-ST2EE180J	AA			18 ohms,1/4W
R546	VRD-ST2EE180J	AA			18 ohms,1/4W
R547	VRS-CY1JB104J	AA			100 kohm,1/16W
R548	VRS-CY1JB104J	AA			100 kohm,1/16W
R549	VRS-CY1JB102J	AA			1 kohm,1/16W
R550	VRS-CY1JB102J	AA			1 kohm,1/16W
R551	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R552	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R553	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R558	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R559	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R560	VRS-CY1JB222J	AA			2.2 kohms,1/16W
R561	VRS-CY1JB333J	AA			33 kohms,1/16W
R562	VRS-CY1JB333J	AA			33 kohms,1/16W
R563	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R564	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R565	VRS-CY1JB182J	AA			1.8 kohms,1/16W
R566	VRS-CY1JB182J	AA			1.8 kohms,1/16W
R702	VRD-ST2CD102J	AA			1 kohms,1/6W
R703	VRD-ST2CD102J	AA			1 kohms,1/6W

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[9] RESISTORS					
R704	VRD-ST2CD102J	AA			1 kohms,1/6W
R705	VRD-ST2CD102J	AA			1 kohms,1/6W
R708	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R709	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R710	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R711	VRD-ST2CD102J	AA			1 kohm,1/6W
R712	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R713	VRD-ST2CD332J	AA			3.3 kohms,1/6W
R714	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R715	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R716	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R717	VRS-CY1JB472J	AA			4.7 kohms,1/16W
R718A	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
R718B	VRD-ST2CD913J	AA			91 kohm,1/6W
R719	VRS-CY1JB123J	AA			12 kohms,1/16W
R720	VRS-CY1JB123J	AA			12 kohms,1/16W
R721	VRS-CY1JB102J	AA			1 kohm,1/16W
R723	VRS-CY1JB103J	AA			10 kohm,1/16W
R724	VRS-CY1JB473J	AA			47 kohms,1/16W
R725	VRS-CY1JB102J	AA			1 kohm,1/16W
R726	VRS-CY1JB223J	AA			22 kohms,1/16W
R727	VRD-ST2CD223J	AA			22 kohms,1/6W
R728	VRD-ST2CD103J	AA			10 kohm,1/6W
R729	VRS-CY1JB104J	AA			100 kohm,1/16W
R730	VRD-ST2CD103J	AA			10 kohm,1/6W
R731	VRS-CY1JB103J	AA			10 kohm,1/16W
R732	VRS-CY1JB104J	AA			100 kohm,1/16W
R733	VRD-ST2CD334J	AA			330 kohms,1/6W
R734	VRD-ST2CD154J	AA			150 kohms,1/6W
R735	VRS-CY1JB102J	AA			1 kohm,1/16W
R736	VRD-ST2CD334J	AA			330 kohms,1/6W
R737	VRS-CY1JB394J	AA			390 kohm,1/16W
R739	VRS-CY1JB102J	AA			1 kohm,1/16W
R740	VRS-CY1JB102J	AA			1 kohm,1/16W
R741	VRD-ST2CD104J	AA			100 kohm,1/6W
R742	VRD-ST2CD392J	AA			3.9 kohms,1/6W
R743	VRS-CY1JB392J	AA			3.9 kohms,1/16W
R744	VRD-ST2CD682J	AA			6.8 kohms,1/6W
R745	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R746	VRD-ST2CD123J	AA			12 kohms,1/6W
R747	VRS-CY1JB123J	AA			12 kohms,1/16W
R753	VRS-CY1JB121J	AA			120 ohms,1/16W
R755	VRD-ST2CD100J	AA			10 ohm,1/6W
R756	VRS-CY1JB473J	AA			47 kohms,1/16W
R757	VRS-CY1JB470J	AA			47 ohms,1/16W
R758	VRS-CY1JB470J	AA			47 ohms,1/16W
R759	VRD-ST2CD471J	AA			470 ohms,1/6W
R760	VRS-CY1JB223J	AA			22 kohms,1/16W
R761	VRD-ST2CD473J	AA			47 kohms,1/6W
R762	VRD-ST2CD223J	AA			22 kohms,1/6W
R763	VRS-CY1JB102J	AA			1 kohm,1/16W
R764	VRS-CY1JB392J	AA			3.9 kohms,1/16W
R765	VRS-CY1JB102J	AA			1 kohm,1/16W
R771	VRD-ST2CD223J	AA			22 kohms,1/6W
R772	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
R773	VRD-ST2CD102J	AA			1 kohm,1/6W
R801	VRS-CY1JB000J	AA			0 ohm,Jumper,0.8x1.55mm,Green
R802	VRD-ST2CD822J	AA			8.2 kohms,1/6W
R803	VRS-CY1JB822J	AA			8.2 kohms,1/16W
R804	VRS-CY1JB331J	AA			330 ohms,1/16W
R805	VRS-CY1JB3R3J	AA			3.3 ohms,1/16W
R806	VRD-ST2CD471J	AA			470 ohms,1/6W
R807	VRS-CY1JB101J	AA			100 ohm,1/16W
R810	VRS-CY1JB104J	AA			100 kohm,1/16W
R811	VRS-CY1JB104J	AA			100 kohm,1/16W
R812	VRS-CY1JB912J	AA			9.1 kohms,1/16W
R813	VRS-CY1JB103J	AA			10 kohm,1/16W
R814	VRD-ST2CD561J	AA			560 ohms,1/6W
R815	VRD-ST2CD123J	AA			12 kohms,1/6W
R816	VRS-CY1JB103J	AA			10 kohm,1/16W
R819	VRS-CY1JB331J	AA			330 ohms,1/16W
R820	VRD-ST2CD1R0J	AA			1 ohm,1/6W
R822	VRS-CY1JB225J	AA			2.2 Mohms,1/16W
R823	VRS-CY1JB203J	AA			20 kohms,1/16W
R824	VRS-CY1JB203J	AA			20 kohms,1/16W
R825	VRS-CY1JB681J	AA			680 ohms,1/16W
R826	VRS-CY1JB681J	AA			680 ohms,1/16W
R827	VRS-CY1JB683J	AA			68 kohms,1/16W
R828	VRS-CY1JB153J	AA			15 kohms,1/16W
R829	VRD-ST2CD682J	AA			6.8 kohms,1/6W
R830	VRS-CY1JB820J	AA			82 ohms,1/16W
R831	VRS-CY1JB104J	AA			100 kohm,1/16W
R832	VRS-CY1JB820J	AA			82 ohms,1/16W
R833	VRD-ST2CD1R0J	AA			1 ohm,1/6W
R834	VRS-CY1JB203J	AA			20 kohms,1/16W

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[9] RESISTORS					
R835	VRS-CY1JB151J	AA			150 ohms,1/16W
R837	VRS-CY1JB332J	AA			3.3 kohms,1/16W
R840	VRD-ST2CD820J	AA			82 ohms,1/6W
R841	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R842	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R844	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R845	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R851	VRS-CY1JB682J	AA			6.8 kohms,1/16W
R853	VRS-CY1JB103J	AA			10 kohm,1/16W
R854	VRS-CY1JB102J	AA			1 kohm,1/16W
R855	VRS-CY1JB561J	AA			560 ohms,1/16W
R856	VRD-ST2CD471J	AA			470 ohms,1/6W
R858	VRS-CY1JB102J	AA			1 kohm,1/16W
R859	VRS-CY1JB102J	AA			1 kohm,1/16W
R860	VRS-CY1JB102J	AA			1 kohm,1/16W
R861	VRS-CY1JB102J	AA			1 kohm,1/16W
[10] OTHER CIRCUITRY PARTS					
CFW701	QCNWNA225SJZZ				Flat Wire,2Pin
CFW702	QCNWNA292SJZZ				Lead Wire Ass'y
CFW801	QCNWNA290SJZZ				Lead Wire
CFW802	-	-			Lead Wire Ass'y
CNA501	QCNWNA026SJZZ	AD			Connector Ass'y,4Pin
CNA502	QCNWNA027SJZZ	AC			Connector Ass'y,3Pin
CNP101	QCNCM998CAFZZ	AE			Plug,3Pin
CNP301	QCNCM042CSJZZ	AB			Plug,3Pin
CNP501	QCNCM999DAFZZ	AG			Plug,4Pin
CNP502	QCNCM999CAFZZ	AG			Plug,3Pin
CNP503	QCNCM010TAWZZ	AD			Plug,18Pin
CNP702	QCNCM932BAFZZ	AA			Plug,2Pin
CNP801	QCNCWA031SJ16				Socket,16Pin
CNS701	QCNCW010TAWZZ	AE			Socket,18Pin
CNW101	QCNWNA025SJZZ	AD			Connector Ass'y,4/3Pin with CNS101
CNW402	QCNWNA221SJZZ				Connector Ass'y,7/6Pin with CNS402
CNW702	QCNWNA001SJZZ	AC			Connector Ass'y,2/2Pin with CNS702
⚠ F101	QFS-D201CAWNi	AD			Fuse,T200mA L 250V
FC801	QCNWNA220SJZZ				Flat Cable,16Pin
J101	QTANA0008SJZZ	AE			Terminal,Speakers
J103	QJAKM0001SJZZ	AG			Jack,Headphone
LCD701	RV-LXA004SJZZ				LCD Display
M501	--------				Motor with Pulley [Tape] (Supplied at REF No.226)
RX701	VHLGP1U281X-1	AH			Remote Sensor,GP1U281X
S501	QSW-SA001SJZZ	AE			Switch,Slide Type [Record/Playback]
SW501	--------				Switch,Leaf Type [Play] (Supplied at REF No.226)
SW700	QSW-Z0003SJZZ	AG			Switch,Rotary Type [VOLUME]
SW701	QSW-P0004AWZZ	AE			Switch,Push Type [CD LID]
SW702	QSW-K0002SJZZ	AC			Switch,Key Type [ON/STAND-BY]
SW703	QSW-K0002SJZZ	AC			Switch,Key Type [FUNCTION]
SW704	QSW-K0002SJZZ	AC			Switch,Key Type [BASS/TRBLE]
SW705	QSW-K0002SJZZ	AC			Switch,Key Type [MEMORY/SET]
SW707	QSW-K0002SJZZ	AC			Switch,Key Type [TUNING UP]
SW708	QSW-K0002SJZZ	AC			Switch,Key Type [TUNING DOWN]
SW709	QSW-K0002SJZZ	AC			Switch,Key Type [PRESET UP]
SW710	QSW-K0002SJZZ	AC			Switch,Key Type [PRESET DOWN]
SW711	QSW-K0002SJZZ	AC			Switch,Key Type [CLEAR]

[11] CABINET PARTS



Note: Only the unit and consumale parts are supplied as parts supply for the Tape mechanism.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[11] CABINET PARTS					
201	CCABBA001SJ01	AH			Rear Panel Ass'y
201- 1	--------				Rear Panel
201- 2	PCUSGA002SJSA	AB			Cushion,Leg
202	CDORT0010SJ04	AK			CD Lid Ass'y
202- 1	--------				CD Lid
202- 2	HDECQ0109SJSA	AD			CD Lid Window
203	CHLDM1011SJ03				Stabilizer Ass'y
203- 1	--------				Stabilizer
203- 2	PMAGF0002AWZZ	AE			Magnet
204	GCABCA001SJSA	AL			Top Cabinet
205	GCABDA001SJSA	AK			Bottom Chassis
206	GCOVAA031SJSA	AG			Cover,Cassette Holder
207	GCOVAA002SJSA	AD			Cover,Remote Sensor
208	GDORFA001SJSA	AF			Cassette Holder
209	GiTASA001SJSA	AK			Side Panel,Right
210	GiTASA002SJSA	AK			Side Panel,Left
211	HDECQA001SJSA	AL			Front Clear Panel
212	HDECQA002SJSA	AE			Cassette Holder Window
213	HDECQA003SJSA	AF			Ring,VOLUME Knob
214	HPNLCA001SJSA	AQ			Front Panel
215	JBTN-A001SJSA	AE			Cassette Button,RECORD
216	JBTN-A002SJSA	AE			Cassette Button,PLAY
217	JBTN-A003SJSA	AE			Cassette Button,REW
218	JBTN-A004SJSA	AE			Cassette Button,FF
219	JBTN-A005SJSA	AE			Cassette Button,STOP/EJECT
220	JBTN-A006SJSA	AE			Cassette Button,PAUSE
221	JKNBKA001SJSA	AG			Button,Power
222	JKNBZ0081SJSA	AD			Button,CD Eject
223	JKNBZA001SJSA	AF			Knob,VOLUME
224	JKNBZA002SJSA	AG			Button,Function
225	JKNBZA003SJSA	AG			Button,Tuning
226	KMECBA001SJ02				Tape Mechanism Ass'y
226- 1	--------				Tape Mechanism Ass'y (Not Replacement Item)
226- 2	LANGKA003SJFW	AB			Bracket,Record Lver
⚠ 227	KRPLE0022SJM2	BC			CD Mechanism Ass'y
228	LANGKA002SJFW	AB			Bracket,PWB
229	LHLDZA069SJSA				Holder,Transformer
230	LHLDW1001SJZZ	AD			Nylon Band
231	LHLDZA065SJSA				Holder,LCD Display
232	LHLDZA066SJSA				Holder,LED
233	LHLDZA003SJSA	AC			Lever,Record
234	MLEVP0003SJZZ	AB			Lever,CD Eject Button
235	MLEVPA001SJSA	AD			Holder,Cassette Button
236	MSPRDA012SJFJ	AE			Spring,CD Lid
237	MSPRDA001SJFJ	AD			Spring,Cassette Holder
238	MSPRDA002SJFJ	AD			Spring,Record Lver
239	NGERH0003SJSA	AE			Damper Gear
240	GCOVA1038SJSA	AD			Cover,Mechanism
241	PCUSG0001AWSA	AD			Cushion (GREEN)
242	PCUSG0004AWSA	AD			Cushion (BROWN)
243	PCUSGA001SJSA	AB			Cushion,Leg
244	PRDARA001SJFW	AF			Heat Sink
245	PSHEPA007SJZZ				Sheet,LCD Display
⚠ 246	QACCEA002SJZZ	AH			AC Power Supply Cord [For Europe]
⚠ 246	QACCEA002SJZZ	AH			AC Power Supply Cord [For East Europe]
⚠ 246	QACCLA001SJ00	AL			AC Power Supply Cord [For Australia/New Zealand]
⚠ 247	QFSHD1013CEZZ	AB			Holder,Fuse
⚠ 248	QLUGP0165AFZZ	AA			Lug Terminal(T101,T102)
249	TLABS0042SJZZ	AB			Label,Laser
250	TSPC-A078SJZZ				Label,Specification [For Europe/East Europe]
250	TSPC-A079SJZZ				Label,Specification [For Australia/New Zealand]
601	LX-EZ0001SJFN	AB			Screw,M2.5x10mm
602	LX-JZA012SJFN				Screw,M3x12mm
603	LX-JZA013SJFN				Screw,M3x13mm
604	XHBSN20P03000				Screw,M2x3mm
605	XJBSN25P10000				Screw,M2.5x10mm
606	XJBSN30P08000	AA			Screw,M3x8mm
607	XJBSN30P10000	AA			Screw,M3x10mm
608	XJBY925P08000				Screw,M2.5x8mm
609	XJBY930P12000				Screw,M3x12mm
[12] SPEAKER BOX PARTS					
	B3CPXLMP10H				Speaker Box Ass'y,L-CH/R-CH

	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
	[13] ACCESSORIES/PACKING PARTS					
	1	QANTL0009SJZZ	AG			AM/FM Loop Antenna
	2	RRMCGA022SJSA	AQ			Remote Control
	2-1	GCOVAA003SJSA	AG			Battery Lid,Remote Control
	3	SPAKAA003SJZZ	AE			Packing Add.,Top
	4	SPAKAA004SJZZ	AE			Packing Add.,Bottom
	5	SPAKCA095SJZZ				Packing Case
	6	SPAKSA002SJZZ	AE			Side Pad,Set
	7	SSAKA0002SJZZ	AE			Polyethylene Bag,Accessories
	8	SSAKAA007SJZZ	AB			Polyethylene Bag,AC Cord
	9	SSAKHA002SJZZ	AC			Main Set poly Bag
	10	TiNSEA036SJZZ	AE			Operation Manual [For Australia/New Zealand]
	10	TiNSZA033SJZZ	AK			Operation Manual [For Europe]
	10	TiNSZA034SJZZ				Operation Manual [For East Europe]
	11	TLABZ0067SJZZ	AB			Label,Energy
	12	TLABZA047SJZZ				Label,Pop
	13	--------				Battery (Not Reolacement Item)
	[14] P.W.B. ASSEMBLY (Not Replacement Item)					
⚠	PWB-A	DCEKKV491SJ03	-			Main(A1)/Display(A2)/LED(A3)/Power(A4)/Switch(A5)
	[15] OTHER SERVICE PARTS					
		UDSKA0004AFZZ	AZ			CD Optical Pickup Lens Cleaner Disc

■INDEX

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
【 B 】				
B3CPXLMP10H	12-			
【 C 】				
CCABBA001SJ01	11-201	AH		
CDORT0010SJ04	11-202	AK		
CHLDM1011SJ03	11-203			
【 D 】				
DCEKKV491SJ03	14-PWB-A	-		
【 G 】				
GCABCA001SJSA	11-204	AL		
GCABDA001SJSA	11-205	AK		
GCOVA1038SJSA	11-240	AD		
GCOVAA002SJSA	11-207	AD		
GCOVAA003SJSA	13-2-1	AG		
GCOVAA031SJSA	11-206	AG		
GDORFA001SJSA	11-208	AF		
GiTASA001SJSA	11-209	AK		
GiTASA002SJSA	11-210	AK		
【 H 】				
HDECQ0109SJSA	11-202- 2	AD		
HDECQA001SJSA	11-211	AL		
HDECQA002SJSA	11-212	AE		
HDECQA003SJSA	11-213	AF		
HPNLCA001SJSA	11-214	AQ		
【 J 】				
JBTN-A001SJSA	11-215	AE		
JBTN-A002SJSA	11-216	AE		
JBTN-A003SJSA	11-217	AE		
JBTN-A004SJSA	11-218	AE		
JBTN-A005SJSA	11-219	AE		
JBTN-A006SJSA	11-220	AE		
JKNBKA001SJSA	11-221	AG		
JKNBZ0081SJSA	11-222	AD		
JKNBZA001SJSA	11-223	AF		
JKNBZA002SJSA	11-224	AG		
JKNBZA003SJSA	11-225	AG		
【 K 】				
KMECBA001SJ02	11-226			
KRPLE0022SJM2	11-227	BC		
【 L 】				
LANGKA002SJFW	11-228	AB		
LANGKA003SJFW	11-226- 2	AB		
LHLDW1001SJZZ	11-230	AD		
LHLDZA003SJSA	11-233	AC		
LHLDZA065SJSA	11-231			
LHLDZA066SJSA	11-232			
LHLDZA069SJSA	11-229			
LX-EZ0001SJFN	11-601	AB		
LX-JZA012SJFN	11-602			
LX-JZA013SJFN	11-603			
【 M 】				
MLEVP0003SJZZ	11-234	AB		
MLEVPA001SJSA	11-235	AD		
MSPRDA001SJFJ	11-237	AD		
MSPRDA002SJFJ	11-238	AD		
MSPRDA012SJFJ	11-236	AE		
【 N 】				
NGERH0003SJSA	11-239	AE		
【 P 】				
PCUSG0001AWSA	11-241	AD		
PCUSG0004AWSA	11-242	AD		
PCUSGA001SJSA	11-243	AB		
PCUSGA002SJSA	11-201- 2	AB		
PMAGF0002AWZZ	11-203- 2	AE		
PRDARA001SJFW	11-244	AF		
PSHEPA007SJZZ	11-245			
【 Q 】				
QACCEA002SJZZ	11-246	AH		
〃	11-246	AH		
QACCLA001SJ00	11-246	AL		
QANTL0009SJZZ	13-1	AG		
QCNCM010TAWZZ	10-CNP503	AD		
QCNCM042CSJZZ	10-CNP301	AB		
QCNCM932BAFZZ	10-CNP702	AA		
QCNCM998CAFZZ	10-CNP101	AE		
QCNCM999CAFZZ	10-CNP502	AG		
QCNCM999DAFZZ	10-CNP501	AG		
QCNCW010TAWZZ	10-CNS701	AE		
QCNCWA031SJ16	10-CNP801			

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
QCNWNA001SJZZ	10-CNW702	AC		
QCNWNA025SJZZ	10-CNW101	AD		
QCNWNA026SJZZ	10-CNA501	AD		
QCNWNA027SJZZ	10-CNA502	AC		
QCNWNA220SJZZ	10-FC801			
QCNWNA221SJZZ	10-CNW402			
QCNWNA225SJZZ	10-CFW701			
QCNWNA290SJZZ	10-CFW801			
QCNWNA292SJZZ	10-CFW702			
QFS-D201CAWNi	10-F101	AD		
QFSHD1013CEZZ	11-247	AB		
QJAKM0001SJZZ	10-J103	AG		
QLUGP0165AFZZ	11-248	AA		
QSW-K0002SJZZ	10-SW702	AC		
〃	10-SW703	AC		
〃	10-SW704	AC		
〃	10-SW705	AC		
〃	10-SW707	AC		
〃	10-SW708	AC		
〃	10-SW709	AC		
〃	10-SW710	AC		
〃	10-SW711	AC		
QSW-P0004AWZZ	10-SW701	AE		
QSW-SA001SJZZ	10-S501	AE		
QSW-Z0003SJZZ	10-SW700	AG		
QTANA0008SJZZ	10-J101	AE		
【 R 】				
RBLN-A003SJZZ	6-L805	AB		
〃	6-L806	AB		
RC-EZD107AF1C	8-C836	AC		
〃	8-C837	AC		
RC-GZA105AF1C	8-C825	AB		
〃	8-C834	AB		
RC-GZA105AF1H	8-C123	AB		
〃	8-C125	AB		
〃	8-C319	AB		
〃	8-C322	AB		
〃	8-C324	AB		
〃	8-C328	AB		
RC-GZA106AF1C	8-C823	AB		
〃	8-C824	AB		
〃	8-C855	AB		
〃	8-C856	AB		
RC-GZA107AF1C	8-C119	AB		
〃	8-C807	AB		
〃	8-C816	AB		
〃	8-C822	AB		
〃	8-C838	AB		
RC-GZA107AF1H	8-C315	AC		
RC-GZA107AF1V	8-C533	AB		
〃	8-C534	AB		
RC-GZA224AF1H	8-C506	AA		
〃	8-C508	AA		
〃	8-C509	AA		
〃	8-C510	AA		
〃	8-C515	AA		
〃	8-C516	AA		
RC-GZA226AF1H	8-C117	AB		
〃	8-C302	AB		
〃	8-C325	AB		
〃	8-C330	AB		
〃	8-C335	AB		
RC-GZA227AF0J	8-C502	AB		
RC-GZA227AF1A	8-C701	AB		
RC-GZA227AF1C	8-C129	AB		
〃	8-C517	AB		
RC-GZA334AF1H	8-C321	AA		
RC-GZA336AF1C	8-C704	AB		
〃	8-C802	AB		
RC-GZA474AF1C	8-C810	AB		
RC-GZA474AF1H	8-C323	AA		
RC-GZA475AF1H	8-C121	AB		
〃	8-C140	AB		
〃	8-C333	AB		
RC-GZA476AF1E	8-C501	AB		
〃	8-C505	AB		
〃	8-C535	AB		
RC-GZA477AF1C	8-C805	AC		
〃	8-C848	AC		
〃	8-C850	AC		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	8-C853	AC		
RC-GZV108AF1E	8-C115	AD		
〃	8-C116	AD		
RC-GZW338AF1E	8-C118	AG		
RCiLAA002SJZZ	6-L302			
RCiLBA001SJZZ	6-L501	AE		
RCiLBA005SJZZ	6-L307	AD		
RCiLBA006SJZZ	6-L306			
RCiLiA001SJZZ	6-L305	AC		
RCiLRA001SJZZ	6-L304	AA		
RCiLZ0005SJZZ	6-L104	AF		
RCiLZA001SJZZ	6-L102	AC		
〃	6-L103	AC		
RCRSP0002SJZZ	7-X801	AL		
RCRSP0007SJZZ	7-X702	AE		
RCRSPA006SJZZ	7-X301	AF		
RFiLA0003SJZZ	4-CF303	AF		
RFiLF0003AWZZ	4-CF302	AK		
RFiLFA001SJZZ	4-CF301	AE		
〃	4-CF304	AE		
RFiLRA001SJZZ	4-CF306			
RH-iXA029SJZZ	1-iC701	AY		
RRMCGA022SJSA	13-2	AQ		
RTRNPA030SJZZ	5-PT1	AW		
RV-LXA004SJZZ	10-LCD701			
【 S 】				
SPAKAA003SJZZ	13-3	AE		
SPAKAA004SJZZ	13-4	AE		
SPAKCA095SJZZ	13-5			
SPAKSA002SJZZ	13-6	AE		
SSAKA0002SJZZ	13-7	AE		
SSAKAA007SJZZ	13-8	AB		
SSAKHA002SJZZ	13-9	AC		
【 T 】				
TiNSEA036SJZZ	13-10	AE		
TiNSZA033SJZZ	13-10	AK		
TiNSZA034SJZZ	13-10			
TLABS0042SJZZ	11-249	AB		
TLABZ0067SJZZ	13-11	AB		
TLABZA047SJZZ	13-12			
TSPC-A078SJZZ	11-250			
TSPC-A079SJZZ	11-250			
【 U 】				
UDSKA0004AFZZ	15-	AZ		
【 V 】				
VCCCCY1HH100J	8-C341	AA		
〃	8-C342	AA		
〃	8-C507	AA		
〃	8-C829	AA		
〃	8-C831	AA		
VCCCCY1HH101J	8-C320	AA		
VCCCCY1HH150J	8-C708	AA		
〃	8-C709	AA		
VCCCCY1HH151J	8-C716	AA		
VCCCCY1HH180J	8-C706	AA		
〃	8-C707	AA		
VCCCCY1HH470J	8-C521	AA		
〃	8-C524	AA		
VCCCCY1HH5R0C	8-C343	AA		
VCCCPA1HH120J	8-C305	AA		
VCCCPA1HH270J	8-C310	AA		
VCCSCY1HL101J	8-C845	AA		
〃	8-C846	AA		
VCCSPA1HL561J	8-C311	AA		
VCCUPA1HJ330D	8-C316	AA		
〃	8-C344	AA		
VCCUPA1HJ7R0D	8-C307	AA		
VCKYCY1EB101K	8-C721	AA		
〃	8-C722	AA		
VCKYCY1EB104K	8-C339	AD		
〃	8-C503	AD		
〃	8-C504	AD		
VCKYCY1EB183K	8-C308	AB		
VCKYCY1EB563K	8-C818	AD		
VCKYCY1EF103Z	8-C371	AA		
〃	8-C813	AA		
〃	8-C817	AA		
〃	8-C820	AA		
VCKYCY1EF104Z	8-C104	AA		
〃	8-C105	AA		
〃	8-C108	AA		
〃	8-C109	AA		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	8-C113	AA		
〃	8-C114	AA		
〃	8-C120	AA		
〃	8-C128	AA		
〃	8-C303	AA		
〃	8-C312	AA		
〃	8-C313	AA		
〃	8-C326	AA		
〃	8-C338	AA		
〃	8-C340	AA		
〃	8-C372	AA		
〃	8-C522	AA		
〃	8-C705	AA		
〃	8-C710	AA		
〃	8-C717	AA		
〃	8-C718	AA		
〃	8-C801	AA		
〃	8-C803	AA		
〃	8-C804	AA		
〃	8-C806	AA		
〃	8-C808	AA		
〃	8-C811	AA		
〃	8-C819	AA		
〃	8-C827	AA		
〃	8-C828	AA		
〃	8-C849	AA		
〃	8-C851	AA		
〃	8-C852	AA		
VCKYCY1EF473Z	8-C101	AB		
〃	8-C812	AB		
〃	8-C814	AB		
〃	8-C826	AB		
VCKYCY1HB101K	8-C334	AB		
〃	8-C336	AB		
〃	8-C337	AB		
VCKYCY1HB102K	8-C301	AA		
〃	8-C332	AA		
〃	8-C703	AA		
〃	8-C711	AA		
〃	8-C715	AA		
〃	8-C809	AA		
VCKYCY1HB103K	8-C124	AA		
〃	8-C306	AA		
〃	8-C314	AA		
〃	8-C318	AA		
〃	8-C327	AA		
〃	8-C331	AA		
〃	8-C511	AA		
〃	8-C513	AA		
〃	8-C518	AA		
〃	8-C527	AA		
〃	8-C528	AA		
〃	8-C720	AA		
〃	8-C723	AA		
VCKYCY1HB104K	8-C830	AD		
〃	8-C832	AD		
〃	8-C833	AD		
〃	8-C835	AD		
〃	8-C839	AD		
〃	8-C840	AD		
〃	8-C841	AD		
VCKYCY1HB122K	8-C525	AA		
〃	8-C526	AA		
VCKYCY1HB153K	8-C531	AA		
〃	8-C532	AA		
VCKYCY1HB222K	8-C126	AA		
〃	8-C127	AA		
〃	8-C133	AA		
〃	8-C134	AA		
VCKYCY1HB223K	8-C329	AA		
〃	8-C351	AA		
VCKYCY1HB272K	8-C512	AA		
〃	8-C514	AA		
VCKYCY1HB331K	8-C112	AA		
VCKYCY1HB471K	8-C519	AA		
〃	8-C520	AA		
VCKYCY1HB472K	8-C102	AA		
〃	8-C103	AA		
〃	8-C106	AA		
〃	8-C107	AA		
〃	8-C130	AA		
〃	8-C131	AA		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	8-C132	AA		
〃	8-C399	AA		
〃	8-C712	AA		
〃	8-C821	AA		
VCKYCY1HB473K	8-C702	AB		
VCKYCY1HB562K	8-C854	AA		
VCKYCY1HB821K	8-C529	AA		
〃	8-C530	AA		
VCKYPA1HB101K	8-C842	AA		
〃	8-C843	AA		
〃	8-C847	AA		
VCKYPA1HB102J	8-C309	AA		
〃	8-C317	AA		
VCKYPA1HB331K	8-C111	AA		
VCKYPA1HB563K	8-C815	AC		
VCKYPA1HB5R0J	8-C345	AA		
VCKYPA1HF472Z	8-C150	AB		
VCQYKA1HM562J	8-C523	AA		
VHCSVC201//-1	3-D306	AE		
〃	3-D307	AE		
VHCSVC347S/-1	3-D305	AG		
VHD1N4148//-1	3-D107	AA		
〃	3-D108	AA		
〃	3-D109	AA		
〃	3-D110	AA		
〃	3-D111	AA		
〃	3-D112	AA		
〃	3-D310	AA		
〃	3-D311	AA		
〃	3-D705	AA		
〃	3-D706	AA		
〃	3-D707	AA		
〃	3-D708	AA		
〃	3-D709	AA		
〃	3-D710	AA		
〃	3-D801	AA		
〃	3-D802	AA		
〃	3-D803	AA		
VHD1N5395//-1	3-D101			
〃	3-D102			
〃	3-D103			
〃	3-D104			
VHD1SS133//-1	3-D105	AA		
〃	3-D302	AA		
〃	3-D303	AA		
〃	3-D501	AA		
〃	3-D703	AA		
〃	3-D704	AA		
VHEDZH04B2+-1	3-ZD802	AB		
VHEDZH05C2+-1	3-ZD801	AB		
VHEDZH06B1+-1	3-D701			
VHEMTZJ120B-1	3-D309	AC		
VHEMTZJ3R6B-1	3-D308	AC		
VHEMTZJ6R8B-1	3-D106	AC		
VHiBD3881FV-1	1-iC501	AP		
VHiLA4631++-1	1-iC101	AM		
VHiLA6548ND-1	1-iC802	AL		
VHiLC78690/-1	1-iC801			
VHiLV23002M-1	1-iC301	AS		
VHLGP1U281X-1	10-RX701	AH		
VHPMPG3372X-V	3-LED701	AD		
〃	3-LED702	AD		
〃	3-LED703	AD		
〃	3-LED704	AD		
VP-DH100K0000	6-L303	AB		
VP-DH1R0K0000	6-L101	AC		
〃	6-L301	AC		
VP-DH220K0000	6-L703	AB		
VP-DH2R2K0000	6-L702	AB		
VP-DH470K0000	6-L308	AB		
VP-DHR82K0000	6-L502	AE		
〃	6-L802	AE		
〃	6-L803	AE		
〃	6-L804	AE		
VRD-ST2CD100J	9-R103	AA		
〃	9-R104	AA		
〃	9-R106	AA		
〃	9-R107	AA		
〃	9-R302	AA		
〃	9-R755	AA		
VRD-ST2CD101J	9-R374	AA		
〃	9-R506	AA		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRD-ST2CD102J	9-R311	AA		
〃	9-R525	AA		
〃	9-R526	AA		
〃	9-R702	AA		
〃	9-R703	AA		
〃	9-R704	AA		
〃	9-R705	AA		
〃	9-R711	AA		
〃	9-R773	AA		
VRD-ST2CD103J	9-R539	AA		
〃	9-R728	AA		
〃	9-R730	AA		
VRD-ST2CD104J	9-R303	AA		
〃	9-R310	AA		
〃	9-R322	AA		
〃	9-R741	AA		
VRD-ST2CD123J	9-R746	AA		
〃	9-R815	AA		
VRD-ST2CD154J	9-R734	AA		
VRD-ST2CD1R0J	9-R820	AA		
〃	9-R833	AA		
VRD-ST2CD222J	9-R502	AA		
VRD-ST2CD223J	9-R532	AA		
〃	9-R727	AA		
〃	9-R762	AA		
〃	9-R771	AA		
VRD-ST2CD271J	9-R101	AA		
〃	9-R102	AA		
VRD-ST2CD331J	9-R531	AA		
VRD-ST2CD332J	9-R121	AA		
〃	9-R122	AA		
〃	9-R516	AA		
〃	9-R519	AA		
〃	9-R710	AA		
〃	9-R712	AA		
〃	9-R713	AA		
VRD-ST2CD334J	9-R733	AA		
〃	9-R736	AA		
VRD-ST2CD391J	9-R323	AA		
VRD-ST2CD392J	9-R742	AA		
VRD-ST2CD470J	9-R325	AA		
VRD-ST2CD471J	9-R759	AA		
〃	9-R806	AA		
〃	9-R856	AA		
VRD-ST2CD473J	9-R761	AA		
VRD-ST2CD561J	9-R814	AA		
VRD-ST2CD562J	9-R540	AA		
VRD-ST2CD682J	9-R744	AA		
〃	9-R829	AA		
VRD-ST2CD820J	9-R840	AA		
VRD-ST2CD822J	9-R802	AA		
VRD-ST2CD913J	9-R718B	AA		
VRD-ST2EE100J	9-R501	AA		
〃	9-R503	AA		
VRD-ST2EE180J	9-R545	AA		
〃	9-R546	AA		
VRS-CY1JB000J	9-R309	AA		
〃	9-R772	AA		
〃	9-R801	AA		
〃	9-JP701	AA		
〃	9-JP801	AA		
〃	9-JP802	AA		
〃	9-JR302	AA		
〃	9-JR303	AA		
〃	9-JR304	AA		
〃	9-R718A	AA		
VRS-CY1JB100J	9-R306	AA		
VRS-CY1JB101J	9-R109	AA		
〃	9-R118	AA		
〃	9-R527	AA		
〃	9-R529	AA		
〃	9-R807	AA		
VRS-CY1JB102J	9-R308	AA		
〃	9-R321	AA		
〃	9-R324	AA		
〃	9-R549	AA		
〃	9-R550	AA		
〃	9-R721	AA		
〃	9-R725	AA		
〃	9-R735	AA		
〃	9-R739	AA		
〃	9-R740	AA		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	9-R763	AA		
〃	9-R765	AA		
〃	9-R854	AA		
〃	9-R858	AA		
〃	9-R859	AA		
〃	9-R860	AA		
〃	9-R861	AA		
VRS-CY1JB103J	9-R313	AA		
〃	9-R316	AA		
〃	9-R723	AA		
〃	9-R731	AA		
〃	9-R813	AA		
〃	9-R816	AA		
〃	9-R853	AA		
VRS-CY1JB104J	9-R304	AA		
〃	9-R305	AA		
〃	9-R319	AA		
〃	9-R328	AA		
〃	9-R547	AA		
〃	9-R548	AA		
〃	9-R729	AA		
〃	9-R732	AA		
〃	9-R810	AA		
〃	9-R811	AA		
〃	9-R831	AA		
VRS-CY1JB121J	9-R541	AA		
〃	9-R542	AA		
〃	9-R753	AA		
VRS-CY1JB122J	9-R115	AA		
VRS-CY1JB123J	9-R518	AA		
〃	9-R520	AA		
〃	9-R719	AA		
〃	9-R720	AA		
〃	9-R747	AA		
VRS-CY1JB151J	9-R835	AA		
VRS-CY1JB152J	9-R110	AA		
VRS-CY1JB153J	9-R528	AA		
〃	9-R530	AA		
〃	9-R828	AA		
VRS-CY1JB182J	9-R509	AA		
〃	9-R510	AA		
〃	9-R565	AA		
〃	9-R566	AA		
VRS-CY1JB183J	9-R512	AA		
VRS-CY1JB203J	9-R534	AA		
〃	9-R536	AA		
〃	9-R823	AA		
〃	9-R824	AA		
〃	9-R834	AA		
VRS-CY1JB221J	9-R327	AA		
VRS-CY1JB222J	9-R307	AA		
〃	9-R375	AA		
〃	9-R521	AA		
〃	9-R523	AA		
〃	9-R543	AA		
〃	9-R560	AA		
VRS-CY1JB223J	9-R505	AA		
〃	9-R508	AA		
〃	9-R726	AA		
〃	9-R760	AA		
VRS-CY1JB225J	9-R822	AA		
VRS-CY1JB330J	9-R371	AA		
VRS-CY1JB331J	9-R329	AA		
〃	9-R372	AA		
〃	9-R804	AA		
〃	9-R819	AA		
VRS-CY1JB332J	9-R112	AA		
〃	9-R113	AA		
〃	9-R312	AA		
〃	9-R708	AA		
〃	9-R709	AA		
〃	9-R714	AA		
〃	9-R715	AA		
〃	9-R716	AA		
〃	9-R837	AA		
VRS-CY1JB333J	9-R116	AA		
〃	9-R117	AA		
〃	9-R561	AA		
〃	9-R562	AA		
VRS-CY1JB334J	9-R504	AA		
〃	9-R507	AA		
VRS-CY1JB392J	9-R743	AA		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	9-R764	AA		
VRS-CY1JB394J	9-R533	AA		
〃	9-R535	AA		
〃	9-R737	AA		
VRS-CY1JB3R3J	9-R805	AA		
VRS-CY1JB470J	9-R757	AA		
〃	9-R758	AA		
VRS-CY1JB472J	9-R114	AA		
〃	9-R314	AA		
〃	9-R315	AA		
〃	9-R563	AA		
〃	9-R564	AA		
〃	9-R717	AA		
VRS-CY1JB473J	9-R317	AA		
〃	9-R318	AA		
〃	9-R320	AA		
〃	9-R326	AA		
〃	9-R537	AA		
〃	9-R538	AA		
〃	9-R724	AA		
〃	9-R756	AA		
VRS-CY1JB561J	9-R855	AA		
VRS-CY1JB562J	9-R120	AA		
VRS-CY1JB563J	9-R119	AA		
VRS-CY1JB681J	9-R111	AA		
〃	9-R376	AA		
〃	9-R825	AA		
〃	9-R826	AA		
VRS-CY1JB682J	9-R131	AA		
〃	9-R132	AA		
〃	9-R551	AA		
〃	9-R552	AA		
〃	9-R553	AA		
〃	9-R558	AA		
〃	9-R559	AA		
〃	9-R745	AA		
〃	9-R841	AA		
〃	9-R842	AA		
〃	9-R844	AA		
〃	9-R845	AA		
〃	9-R851	AA		
VRS-CY1JB683J	9-R827	AA		
VRS-CY1JB820J	9-R830	AA		
〃	9-R832	AA		
VRS-CY1JB822J	9-R803	AA		
VRS-CY1JB8R2J	9-R517	AA		
VRS-CY1JB912J	9-R812	AA		
VS2HC1815GR-1	2-Q104	AB		
〃	2-Q808	AB		
VS2SA1235F+-1	2-Q801	AD		
VS2SB1370E+-1	2-Q101	AG		
VS2SB562-C/-1	2-Q809	AD		
〃	2-Q810	AD		
VS2SC3052F+-1	2-Q102	AD		
〃	2-Q103	AD		
〃	2-Q301	AD		
〃	2-Q503	AD		
〃	2-Q701	AD		
〃	2-Q704	AD		
〃	2-Q705	AD		
〃	2-Q706	AD		
〃	2-Q805	AD		
VS2SC5395F+-1	2-Q502	AD		
〃	2-Q702	AD		
〃	2-Q703	AD		
VS2SC5477++-1	2-Q302	AD		
〃	2-Q371	AD		
VSKTC3200GR-1	2-Q802	AC		
【 X 】				
XHBSN20P03000	11-604			
XJBSN25P10000	11-605			
XJBSN30P08000	11-606	AA		
XJBSN30P10000	11-607	AA		
XJBY925P08000	11-608			
XJBY930P12000	11-609			

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

-MEMO-

-MEMO-

-MEMO-

SHARP

COPYRIGHT © 2004 BY SHARP CORPORATION

ALL RIGHTS RESERVED.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted in
any form or by any means, electronic, mechanical,
photocopying, recording, or otherwise, without
prior written permission of the publisher.

SHARP CORPORATION
AV Systems Group
Quality & Reliability Control Center
Higashihirosima, Hiroshima 739-0192, Japan

Printed in Japan
A0412-1SS•HA•C
SG•SA